BRITISH MEDICAL JOURNAL

LONDON: SATURDAY, JUNE 1st, 1935

THE SYMPTOMATOLOGY OF CARDIAC PAIN*

BY

GEOFFREY BOURNE, M.D., F.R.C.P.

ASSISTANT PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL

The loose term "angina pectoris" has long been used to cover indiscriminately the various types of cardiac pain. The fairly recent differentiation of coronary thrombosis as a separate clinical entity should serve to stimulate further precise classification. The purpose of the present communication is to record the differences in symptomatology observed in a number of cases of cardiac pain followed up and observed over a period of seven years. During that period it has become clear to the writer that there are several different types of "angina," and that accurate classification of these cases is helpful in prognosis and in treatment, and is essential for the intelligent performance of any clinical investigation of the subject. It is felt that the clinical characteristics of the various types are sufficiently constant to make it desirable that they should be placed on record, with a view to stimulating a wider interest and a more accurate terminology.

There are two chief methods for the making of a diagnosis—history and physical examination. In certain conditions the history is of especial value. Diseases of the stomach have always been remarkable for the paucity of physical signs, and in earlier days diagnosis depended upon an exact elucidation of the relation and response of the gastric sensation to food, alkalis, and posture, and to the presence or absence of water-brash, vomiting, and appetite. Special means of investigation, the radiograph, the fractional test-meal, and the chemical examination of stools for occult blood have confirmed scientifically the separate identities of the syndromes present clinically in hyperchlorhydria, gastric and duodenal ulcer, carcinoma, and gastritis. Gastralgia is not used as a label to cover all of these separate conditions. There is as little excuse for the term "angina" as a label to embrace the different types of cardiac pain. In the case of the heart, however, biochemistry and radiology are not helpful as differentiating methods, and the use of the electrocardiograph for this purpose is as yet limited. An exact history is therefore of the greatest importance in this group of diseases.

So far as the history is concerned cardiac pain can be classified under the following heads:

Quantitative pain (angina of effort).
Spasmodic pain (spasmodic angina).
Continued pain (coronary occlusion).
Pain having no specific relationships (pseudo-angina or angina innocens).

These types of pain may in any one case be found quite defined and separate, or it may be possible to recognize two or more of them as present in combination.

* Some of the material used in this paper formed the basis of two B.M.A. Lectures, to the Southampton and to the Hampstead Divisions.

Descriptions of the symptomatology of the different types of pain will at first be given; these will be followed by descriptions of certain other clinical syndromes with which cardiac pain is significantly associated.

Quantitative Pain (Angina of Effort)

"Angina of effort" is a condition in which the pain is cardiac in character, arising substernally and centrally in most cases, and eventually radiating down one or both arms, generally the left. In some cases the order of origin and radiation is reversed, the "pain" arising in the fingers, wrist, or lower arm, and eventually radiating back to the chest. This spread of pain is of two kinds, the spread occurring either as the disease progresses or as the individual attack develops. For example, the first symptom may be substernal pain, and for weeks or months the pain is localized to that situation, though varying in intensity. Later the pain radiates to the arm whenever it arises under the sternum. In other cases the pain at the commencement of the attack always begins under the sternum, and inevitably radiates to the arm.

As cardiac pain becomes less severe during treatment, the radiation frequently no longer occurs, and the actual area of the chest wall over which pain is felt becomes less, so that sometimes only one or more isolated spots are present at which quantitative pain still occurs. The patient may describe this localized pain as similar to that produced by a thumb being pressed hard against the chest.

The absolute rule in angina of effort is that *the symptom is completely absent during rest, and is evoked by exercise.* The presence of "pain" is strictly proportional in every case to the amount of exercise undertaken, and the more intelligent the patient the more accurately will his account of the symptoms bring out this relationship. One such patient stated without questioning that he could walk for about 300 yards on the flat at four miles an hour, at which point the pain began; he could walk for an indefinite period at two miles an hour, but hills pulled him up immediately.

From this quantitative relation of the pain it is clear that patients soon learn to walk slowly, for they recognize that by doing so pain is absent or slight. Thus pain in angina of effort is very rarely severe, unless emergency or stress forces the patient to disregard the warning sensation in the chest. It is generally described as an "oppression," a "tightness," a "gripping feeling," a "lump," a "bursting feeling," a sensation of "distress." These sensations will only become pain if exercise is continued. It occasionally happens that in individuals with a sensitive nervous system true pain is complained

of from the first onset of the sensation. This is, however, a less common occurrence.

In some instances the pain is, in its first stage, only noticed after a meal. The exact quantitative relation to exercise still persists, but the pain in these cases only occurs if such exercise is taken on a full stomach. The increased cardiac output following a meal, or the splanchnic congestion, with presumably some systemic depletion of blood, may be causative factors producing this peculiarity. Another factor which not infrequently accentuates angina of effort is external cold. When the temperature is lowered, and particularly in the presence of a cold wind, the pain is apt to come on with less exercise than usual.

Angina of effort is found characteristically in arteriosclerosis, the heart muscle being affected in a variable degree. The degree of involvement of the myocardium is proportional to the amount of dyspnoea associated with the pain. The pain itself, although symptomatic of organic disease of the heart muscle, is also a measure of the sensitivity of the central nervous system. It is therefore most important to obtain a clear answer to the question, "Which is it that pulls you up, pain or shortness of breath?" Patients whose nervous thresholds are low complain of pain and of no dyspnoea; patients whose myocardium is more severely affected complain chiefly of dyspnoea, and secondarily of pain.

The writer believes that a second factor is involved in this relation between the severity of the pain and the amount of dyspnoea. This factor is the rate of development of the arterial obstruction. If a lesion is slow in development it is more insidious, and allows of some degree of physiological or nervous adaptation, and it can cause a physical disturbance with less pain, whereas a sudden lesion is more acutely painful. The history of coronary thrombosis bears this out, for here the abruptness of the lesion and the severity of the pain are both maximal. In contrast with this much fibrosis is found post mortem in many hearts, associated with, and presumably resulting from, slowly advancing coronary atheroma, yet in such patients cardiac pain has been absent. In such cases it would seem that the heart muscle fibres have been killed off painlessly one by one by the very slowly advancing coronary obstruction.

Pathological Causes of Angina of Effort

The type of pain suffered from is so analogous to that found in intermittent claudication that it is difficult to avoid the conclusion that the cause is partial obstruction to coronary flow. Such a partial obstruction occurs most commonly in atheroma of the coronary vessels, and this lesion is probably responsible for the vast majority of all such cases. It is also found in syphilitic aortitis, in which condition the coronary walls are normal, but the coronary orifices, where they pierce the aortic wall, become involved in syphilitic oedema, inflammatory swelling, or fibrosis. Severe anaemia, by producing a general anoxaemia, may apparently produce the angina of effort in patients who otherwise would have been free from it, or who previously had no such symptoms. Carey Coombs[1] has described "angina" in pernicious anaemia, and the same symptom has been seen by the writer in simple anaemia following a haematemesis in two cases.

Relation to Other Types of Cardiac Pain

There is a close aetiological connexion between angina of effort and coronary thrombosis. Sometimes angina of effort precedes the latter condition. In this case the symptoms of partial coronary occlusion due to the atheromatous change are manifest in the form of the quantitative cardiac pain. Where coronary thrombosis occurs with no previous history of angina of effort, either the coronary lumen was adequate, in spite of the presence of atheroma, or the patient's nervous system was relatively insensitive.

Coronary thrombosis is frequently the starting-point for a subsequent period of angina of effort in a previously healthy individual. It is easy to understand that the coronary block, while killing some heart muscle fibres, renders others, which are partially served by collateral circulation, only relatively poor in blood supply. When these fibres are at rest they are adequately nourished; when they are working above a certain level of effort their blood supply is inadequate and pain occurs.

There is also a definite connexion between angina of effort and spasmodic angina. As with coronary thrombosis a period of quantitative pain may precede, for months or years, the onset of attacks of spasmodic angina. Since the mechanism of the latter condition is still obscure the functional connexion is less obvious than is the clinical. Spasmodic angina is commoner in nervous, highly strung sufferers from angina of effort than in those of a more phlegmatic disposition. The underlying coronary disease is present in both classes, and in most, in addition to the spasmodic attacks of severe pain, there is present the quantitative dull pain and sensation of constriction characteristic of angina of effort.

Spasmodic Angina

In spasmodic angina the patient is seized by a paroxysm of severe pain. This has the same distribution and radiation as that described as occurring in angina of effort. It varies from the latter condition in certain important clinical particulars. The onset is sudden, the degree of pain is maximal from the first minute or so of the attack, and there is frequently a sensation of impending death; no fear of death is felt, for such is the agony of the pain that any release would be gladly sought. The pain is agonizing, strangling, constricting, or tearing, but is less severe than that felt in some cases of coronary thrombosis. The onset of the attack is determined by such things as emotion, a cold wind, or previous exercise. Exercise has a different relation to the pain in spasmodic angina from that found in angina of effort. Over-exertion may, so to speak, pull the trigger, or a period of over-exertion during the day may produce an attack, or a series of attacks, in the evening. There is no direct quantitative relationship. The attacks not infrequently arise at night, but whether they then result from slowing of the circulation rate during sleep, from the flat position in bed, or from some abdominal cause, either digestive, reflex, or mechanical, is still undetermined.

During the attack the patient is pale and anxious, and prefers to remain quite still. Sweating is frequent. The appearance suggests a slight degree of cyanosis. An outstanding feature which is of clinical help in distinguishing spasmodic angina from coronary thrombosis is the relief produced in the former condition by the inhalation of amyl nitrite. This drug has no analgesic action in coronary thrombosis.

The mechanism of production of the attack of spasmodic angina is obscure. It is true that sufferers from the condition are nearly always of a highly reactive nervous temperament. It is rare to find a really phlegmatic patient who suffers from it. The sudden onset, the sensitive nervous system of the patient, the fairly frequent association between spasmodic angina and Raynaud-like spasm of peripheral blood vessels, and, finally, the dramatic effect of the antispasmodic drugs of the nitrite group, are all evidence in favour of spasm as the mechanical cause of the attack.

Presumably this spasm would interfere with the blood supply to the myocardium, and there are three ways in which ischaemia of the heart muscle could be brought

about as a result of it. It is possible that a diseased coronary branch, not yet rigid, could go into spasm and produce ischaemia. In this case the spasm would occur in the main branch and near the area of disease. A second theory would be that the terminal arterioles of a diseased coronary branch would go into spasm, there being a state of irritation resulting from anoxaemia, or possibly from some secondary trophic change in the local nerve endings. Thirdly, if an area of heart muscle is relatively ischaemic from disease of its nutrient artery, it is possible that the arterioles entering the area as anastomotic branches from the adjacent normal coronary branches might go into spasm as a result of some essential chemical or physical difference between the normal area of muscle and the area less well supplied with blood.

There are thus two ways in which amyl nitrite might produce relief: either it could relax the spasm of a diseased but not rigid vessel, or it could increase the lumen of the anastomosing collateral arterioles. In the latter case the ischaemia produced by the diseased vessel would be removed by the increased blood flow obtained from the relaxation of these anastomosing vessels. Clinically speaking, true spasmodic angina is a symptom of importance. If it becomes established as a fresh event in a case of angina of effort the prognosis appears to be materially worsened. If it occurs in syphilitic aortitis or in aortic incompetence the prognosis is also worse.

Since this condition has, until the last few years, been confused by all observers with either coronary thrombosis or with angina of effort, no exact knowledge as to its prognosis or its mechanism has been accumulated. The statements in textbooks regarding its immediate fatality must therefore be accepted with reservation until further information is available.

Coronary Thrombosis

The pain of coronary thrombosis has already been referred to, for comparison, in the description of the other types of cardiac pain. The pain is due to the abrupt blocking of a branch of the coronary system, with the resulting anoxaemia, degeneration, and fibrosis of the corresponding muscle area. The onset is therefore abrupt, and the general tendency is for the pain to be severe at first and slowly to subside over a period of days. The pain may be continuous or may occur in waves, with periods of remission. In either case the average period during which pain is suffered is from four to eight days. The type and the severity of the pain vary greatly.

It is generally true that when the pain is very acute the lesion is extensive ; the converse, however, does not hold, for a fatal thrombosis may be preceded by a comparatively mild attack of pain. In severe cases the pain is tearing, rending, or compressing, is unbearably acute, and is accompanied by a sensation of impending death. It is generally severe, but sometimes is so mild as to be mistaken for a somewhat obstinate attack of flatulence. In rare cases the thrombosis may occur entirely without pain. The manner of onset, duration, and diminution of the pain are features of greater diagnostic value than is the severity.

The situation of the pain varies considerably. In characteristic cases it is substernal or precordial, and radiates to one or both arms, generally the left. It may, however, remain central in position, or radiate through to the back. In other cases it is felt in the upper epigastric region, and may then simulate gall-stone or gastric colic. A relation to respiration is not very infrequent ; generally it is only a deep breath which evokes the twinge of pain, but rarely the respiratory relationship is so definite as to suggest a true pleurisy or a lobar pneumonia. Dyspnoea and cyanosis, fever and leucocytosis are generally to be found if looked for.

The pain is not relieved by amyl nitrite, morphine being necessary, often in repeated doses. Coronary thrombosis may occur in an individual who has had no previous symptoms, or may supervene during the course of angina of effort. In the latter case the patient recognizes the two types of pain as being perfectly distinct.

"Pseudo-angina" (Angina Innocens)

This label is unsatisfactory, on philological grounds, for the pain is anything but false. The writer suggests the term "angina innocens," by analogy with "diabetes innocens." The syndrome referred to occurs in nervous individuals, and is characterized by precordial pain, nervous fatigue, and lassitude, there being no evidence of organic cardiac disease.

The pain is of two types, persistent and spasmodic. Either or both types may be present in any one patient. The persistent pain is often nothing more than a dull ache, which is precordial in position and which may radiate into the arms. The pain has no quantitative relation to exertion, and may not occur at all during exercise. The individual is of the type who "lives on his (or her) nerves," being often capable of considerable exertion, provided it is undertaken for some exciting or pleasurable reason. Afterwards the patient collapses and the precordial pain is greatly increased. The pain is persistent, to a greater or lesser degree, over quite long periods of time—days, weeks, or months—but is accentuated by periods of overwork or by shorter spells of over-exertion. It may not amount to more than a dull ache. An accentuation of pain is felt after the exertion is over ; there is no warning tightness or pain immediately the level of exercise rises above a certain measure, as is the case in angina of effort.

Sometimes a second very characteristic type of pain is also complained of. It is alarming both to the patient and to the physician. The patient is generally standing at the time, and may be engaged in some such exertion as washing the face. Suddenly an acute attack of precordial pain occurs which may or may not radiate to the arms, or indeed to the back and legs in addition. Within a few seconds the patient begins to feel faint, and then loses consciousness. This part of the syndrome is like that suffered from in an ordinary syncopal attack. There is no sudden abrupt loss of consciousness, as in epilepsy, and no convulsive movements or other epileptic phenomena are observable. Such attacks do not occur with great frequency. Three or four may have been suffered from in the course of a year or two. They are followed generally by an accentuation of the symptoms of lassitude and general fatigue complained of by the patient.

Other signs suggestive of a neurasthenic condition of the cardiovascular system as a whole are present in these patients. Palpitation and consciousness of the heart-beat are common, precordial tenderness invariable. It may be said here that precordial tenderness is also common in spasmodic angina, but is very unusual in simple angina of effort. Its absence, then, is evidence of an organic cardiac lesion. Fatigue is complained of rather than dyspnoea in angina innocens ; standing is more trying than walking. The condition is frequently the result of a true nervous fatigue, which, in its turn, may or may not be the result of some long-continued physical abnormality such as chronically infected tonsils. Psychological stresses are frequent, and in a number of cases a history of a "nervous breakdown" is found ; in some cases a more serious mental lapse has previously occurred.

In many cases physical signs of a labile vasomotor mechanism are demonstrable, the pulse rate being considerably raised and the blood pressure lowered in the standing posture, as compared with the readings taken when the patient is lying flat.

Special Conditions

SYPHILITIC CARDIAC PAIN

Syphilis is a disease of the aorta rather than of the heart; but the oedema and fibrosis produced in the aorta does effectually interfere with the efficiency of the coronary circulation by decreasing the lumen of the vessels where they pierce the aortic wall. A further effect of syphilis is the production of an aortic incompetence. Patients with aortic syphilis suffer from three types of pain, excluding that produced by a definite aneurysm—these are: angina of effort, spasmodic angina, and nocturnal pain.

The angina of effort is identical in every particular with that already described, but it is found typically in a patient who has no signs of hyperpiesis or arteriosclerosis, and in whom, if there is no aortic incompetence, the heart is not enlarged. The typically organic nature of the pain in an individual who has apparently no other evidence of organic cardiovascular disease has led the writer not infrequently to suspect aortic syphilis, the diagnosis being ultimately confirmed. If the disease is discovered at this stage full anti-syphilitic treatment will remove the anginal pain, render the Wassermann negative, and restore the patient to apparently normal health. The syndrome is thus one with which medical men should be familiar, for its recognition will enable treatment to be begun at a stage where a good result is still possible.

In patients with a syphilitic aortic regurgitation, in addition to angina of effort, a spasmodic angina is sometimes found. This is symptomatically identical with spasmodic angina in non-syphilitic cases. A nocturnal pain, recognized sometimes by the patients as being of a cardiac nature, is not uncommon in syphilitic aortitis. It is generally central, and may be felt in front under the sternum, or may be referred more to the back. Occasionally it is affected by posture. It is somewhat indefinite in its characteristics, and is more remarkable for what it is not than for what it is. It is not quantitative to exercise, as in angina of effort; it is not severe and radiating, as is spasmodic angina; it is not persistent, as is coronary thrombosis. It is, however, an intrathoracic pain, noticed chiefly at night, and sometimes referred to the heart. The writer regards it as a manifestation of the aortitis. Its presence in an individual with angina of effort is always suggestive of syphilis of the aorta.

AURICULAR FIBRILLATION AND CARDIAC PAIN

It is a curious fact that cardiac pain is generally not present in patients whose auricles are fibrillating. It has been remarked by many observers that, when auricular fibrillation supervenes in a patient who has hitherto suffered from anginal pain, the latter symptom disappears. The reason for this is not understood.

A case of the writer's bore out this same fact in a very striking manner. The patient was a particularly intelligent individual, and a lawyer by profession, so that reliance can be placed upon his evidence. He was seized by a severe and painful attack of coronary thrombosis, proved electrocardiographically. The rhythm was regular. On the second day of his illness he was conscious of two facts. The first was that the heart was thumping and fluttering irregularly, and the second was that simultaneously the cardiac pain had disappeared. He remarked on the coincidence himself.

It is difficult to understand why auricular fibrillation and cardiac pain so rarely coexist. Very considerable further observation is necessary on the point.

CARDIAC PAIN IN MITRAL STENOSIS

Sudden severe attacks of pulmonary congestion, associated with paroxysmal dyspnoea, are not infrequent in advanced cases of mitral stenosis. These attacks are sometimes associated with very severe pain of an anginal nature. They occur in children as well as in adults. The onset is generally while the patient is at rest, for such patients are generally bed-ridden. Dr. Lees of Great Ormond Street found that full doses of atropine sulphate 1/50 grain, or even 1/25 grain, would relieve the pain.[2] Some degree of cardiac pain is occasionally found in ambulatory cases of mitral stenosis. It is vaguely increased by exertion, but there is no exact relationship to this.

Conclusions

An attempt has been made to state clearly and concisely the clinical characteristics of the various types of cardiac pain as observed by the writer over a period of seven years. A number of such cases have been followed up throughout this period.

Stress is laid upon the necessity in all such cases of carefully taking the history and analysing the symptoms. Unless such a differentiation is made, research work upon the prognosis, or upon the value of various therapeutic measures in cases of cardiac pain, is founded upon an insecure basis, and is likely to be misleading or fruitless.

REFERENCES

[1] Coombs, Carey F.: *British Medical Journal*, 1926, ii, 185.
[2] Lees, D. B.: *The Treatment of some Visceral Inflammations*, p. 174. John Murray, London, 1904.

PAROXYSMAL NEURALGIC TIC AS A SEQUEL OF TRIGEMINAL NEURITIS*

BY

WILFRED HARRIS, M.D.

The term "trigeminal neuralgia" has been used mostly to designate a particular form of paroxysmal facial pain limited to the distribution of the fifth cranial nerve, and unassociated with any clinical sign of damage to the nerve, such as anaesthesia or motor palsy. Various other names have been given to this complaint, such as trifacial neuralgia, tic douloureux, and major trigeminal or epileptiform neuralgia; but tic douloureux, though expressive, is also used by many persons to designate the pains of migraine and other periodic headaches. Moreover, now that paroxysmal glossopharyngeal neuralgia is becoming better known, the term tic douloureux is equally applicable to that complaint, in which the pain, though somewhat different in distribution, is identical in character with that of trigeminal tic.

In order to distinguish sharply these paroxysmal neuralgias, which are not due to any gross lesion or irritation of these nerves, I propose the names trigeminal tic and glossopharyngeal tic. By the use of these terms it will be impossible to confound these characteristic neuralgias with the minor or atypical neuralgias, though it is true that gross irritation of the fifth or ninth nerve by tumours at the base of the brain have occasionally set up paroxysmal neuralgia not to be distinguished from trigeminal or glossopharyngeal tic, as in the cases described by Weisenburg[1] and by Parker.[2] Typical trigeminal tic is also met with as an occasional complication of disseminated sclerosis. Chronic facial neuralgia, often with severe paroxysmal exacerbations and intense hyperaesthesia of the skin, is a common sequel of trigeminal zoster in old people. Lastly, severe paroxysmal facial neuralgia is a rare sequel of medullary thrombosis involving the spinal root of the fifth nerve, as in cases of thrombosis of the posterior inferior cerebellar artery.

* A paper read before the Association of British Neurologists, May 10th, 1935.

Total Trigeminal Anaesthesia followed by Trigeminal Tic

Of the 853 cases of trigeminal tic seen in private practice of which I have notes, there are three that appear to me to belong to a class hitherto undescribed. In each there occurred rapid or sudden onset of complete numbness of one side of the face, eye, forehead, lips, jaws, and tongue, the anaesthesia being so dense that the lip or cheek was liable to be bitten. The duration of the numbness varied from a few weeks to four years, but in each case the anaesthesia passed off completely, being succeeded by paroxysmal trigeminal neuralgic spasms, which yielded completely to alcohol injection treatment.

CASE I

A man, aged 65, developed almost suddenly complete numbness of the left side of the face and head, lips and tongue, accompanied by swelling of the face and scalp, the swelling, according to his story, being limited to the left half, extending along the middle of the top of the head, and down the middle of the nose, lips, and chin. The eye was so swollen that he could not open it for two or three days, and after ten days the swelling disappeared. At no time was there any redness or rash, blisters, or vesicles. When the swelling and numbness appeared, he noticed a sensation as of "ice" inside the mouth on the left side. He remained away from work for six weeks, when he recovered, the numbness passing off. Twelve months later the swelling returned, but it was not so bad nor did it last so long, and there was no feeling of "ice." He was then well for two years, when "jumping pain" began in the left cheek and around the left eye and eyebrow: he described it "as quick as a flash of lightning, feels like a flaring fire." It was felt mostly in the side of the nose and eyelids—not so much in the upper lip—and in the left upper gum, but never in the lower jaw or top of the head. For three or four years the pain was bearable, usually being absent in the summer and worse in a cold wind.

When I saw him in 1914 the pain was getting worse, especially for the last three weeks. The left eye became bloodshot during the bouts of pain, which was not aggravated by eating, talking, or handling the face. Extraction of dental stumps made no difference. There was no trace of anaesthesia or analgesia, or of motor weakness. As he was having numerous brief spasms of pain an alcohol injection was given to the foramen rotundum and to the supra-orbital branch, causing anaesthesia of the second division and the outer forehead. Slight spasms of pain continued, much less severe, but the eye was at first still painful.

After five years he was again sent to me with the information that the pain had been relieved after the injection until the previous month. There was no remaining anaesthesia, and an injection was now made into the Gasserian ganglion through the foramen ovale, causing total anaesthesia. Five years later he was reported as still numb, and quite well except for occasional shoots of pain on the left side.

Though the type of the actual painful spasms may be considered as characteristic of paroxysmal neuralgic tic of the fifth nerve, yet there were striking differences. One of the most characteristic features of trigeminal tic is that the painful spasms are liable to be started by movements of the face or jaws, such as the acts of eating, washing or rubbing the face, blowing the nose, etc., and very often the slightest touch on lip or nostril may precipitate an attack. In Case I this was definitely not so, and for that reason doubt might reasonably be expressed whether the case should be included among the trigeminal tics. Yet the suddenness and brief duration of his painful spasms, "quick as a flash of lightning," and their almost complete relief by alcohol injection of the Gasserian ganglion, differentiate the case sharply from the class of "atypical neuralgias," in which the pain is more or less constant, and which operative treatment or alcohol injection almost always fails to relieve. A curious symptom in this case was the initial unilateral swelling of the skin and eyelids, bounded by the midline, which developed with the onset of the numbness and anaesthesia and lasted for ten days, recurring for a shorter time a year later.

CASE II

A married woman, aged 42, was seen in August, 1932. Five years previously, when in Bermuda, she noticed the onset of sudden numbness of the right half of her face, including the eyeball, nose, and half the tongue. This numbness continued without change for four years, during which she used occasionally to bite her cheek without knowing it and was apt to dribble at the right side. The eye also felt uncomfortable, though the sight was perfect. During the last twelve months the numbness had gradually been passing off, and three weeks before I saw her she began to feel her tongue again, as if it were rubbing against a rough tooth. This became painful, and the pain spread a week later into the right lower jaw, leaving the tongue. The pain was in paroxysmal spasms, brought on by touches on the lower lip or cheek, by eating, by washing the face, or by cleaning the teeth. When I saw her there was no remaining anaesthesia in the face, though she still complained of a slight feeling of numbness; a pin-prick was just as sharp on the right side as on the left, the touch of a hair was equal on the two sides, and the conjunctival reflex was brisk. There were no physical signs of any organic nervous disease. Injection of the Gasserian ganglion produced total third division anaesthesia and considerable anaesthesia of the second and first divisions, with complete cure of the pain. The patient remains well (April, 1935).

CASE III

A man, aged 75, was seen on March 5th, 1935. Ten years ago numbness developed one morning on the right half of the face, including the tongue; he bit his lip without knowing it. The numbness wore off after six months. There was no pain until three years ago, when it became violent in the right eye and around the eyebrow, later spreading into the cheek and side of the nose and into the right lower jaw. The pain was in paroxysmal spasms. The patient had had six months' comparative freedom, but he had been having spasms of pain daily since last September. A month before I saw him he had been injected by a surgeon, under novocain, with no improvement.

His head was wrapped in a blanket, as he was very sensitive to draught. There was no trace of anaesthesia, and no other physical signs. An injection was given into the Gasserian ganglion on the right side by the anterior route, though he was having severe paroxysms every few minutes; local novocain was used as an anaesthetic. Third division anaesthesia was quickly obtained, but I had some initial difficulty in passing the needle through the foramen ovale. Total trigeminal anaesthesia soon followed, the first few drops of alcohol cutting short a pain spasm. Next day the anaesthesia was unaltered and complete, he said "like a block of wood," but spasms of pain through the eye persisted, shorter and less severe.

Two days later the spasms were continuing, though the anaesthesia appeared to be total to pin-prick or pressure, yet moving his eyeshade or his upper denture started the painful spasms. I therefore injected the ganglion with alcohol again, slightly deeper, producing the typical flush of the right half of the forehead, partial ptosis, and contracted pupil of sympathetic paresis. There were no spasms of pain at first, but they became very severe during the night, "the worst night he ever had." On careful testing the next day there appeared to be slight sensation on the right upper gum and tongue, but none on the lip or nose, cheek, forehead, or chin. There was motor paralysis of the fifth nerve. I injected the ganglion yet a third time, and after this there was no further neuralgia. He had been having daily pyrexia to 100°, and the temperature then ran up to 102.4°. He developed slight herpes of the right upper lip, and there was a good deal of mild delirium with hallucinations of vision for two days. He had no more pain, was better the next day, and returned home. On April 6th his doctor wrote: "No more pain, no keratitis; is much improved and enjoying life."

Discussion

What can be the pathology of these cases? The acuteness of onset and the totality of the fifth nerve distribution is suggestive of an acute neuritis, possibly of the Gasserian ganglion; but the long duration of the anaesthesia—four years in one of the cases, followed by gradual recovery during twelve months, and then by the onset of typical trigeminal tic—is quite unlike the clinical history of any known form of neuritis. In some respects the onset of swelling and numbness of the trigeminal area in Case I, followed by intractable trigeminal neuralgia, resemble the post-herpetic pain that occasionally follows trigeminal zoster. The pain was not altogether unlike that seen in some post-herpetic cases, yet there had never been any vesicular rash or pain with the original numbness and consequently no scarring, and the painful spasms were practically cured by alcohol injection of the ganglion, which is usually of no avail in such cases. The one-sided swelling of the scalp, face, and eyelids suggested the involvement of sympathetic nerve fibres, and, therefore, a lesion of the Gasserian ganglion rather than of the sensory root.

Nine years ago[3] I drew attention to the comparative frequency of chronic spastic paraplegia, usually disseminated sclerosis, complicating cases of trigeminal tic. I had at that time met with seventeen such cases, and up to date I have now notes of forty that I have seen, thirty-two (eighteen women and fourteen men) in private practice, or 3.7 per cent. of my 853 cases of trigeminal tic. Two of the eighteen cases in women were of bilateral neuralgia. Thirty-nine of this series of 853 were bilateral (thirty-one women and eight men), or 4.5 per cent. of my total, three only being cases of disseminated sclerosis. Including hospital cases I have records of sixty bilateral trigeminal tics, seven being cases of disseminated sclerosis.

Parker[4] has described four cases of trigeminal tic associated with disseminated sclerosis in which the pain was cured by root section, and in one of these a patch of sclerosis was found post mortem involving the sensory root close to the pons. Yet no sensory defect of the trigeminal area was discovered on examination previous to the operation. A few other similar cases have also been described, such as that of Oppenheim's, and I have also seen partial trigeminal anaesthesia, lasting a few weeks, in the early stages of three cases of disseminated sclerosis. On the other hand, I have also seen partial trigeminal anaesthesia which cleared up after some weeks in three other patients in whom no further signs of organic nervous disease appeared, though one of them was examined thirteen years afterwards.

Disseminated Sclerosis with Trigeminal Anaesthesia

The three cases of disseminated sclerosis in which trigeminal anaesthesia was present for a few weeks were as follows.

CASE IV

A young woman, aged 32, was seen in May, 1923. Eight years previously the right arm became useless, with some pain and numbness of the three inner fingers, and she was liable to drop things. Two years previously the right half of the face and half of the tongue became numbed, with loss of taste on the right side of the mouth: everything felt cold. This recovered in two months. The patient had twelve months' weakness and dragging of the right leg, and later both legs became weak, and she was liable to fall. Two months previously she had diplopia. There was a spastic gait, clumsiness of fingers, loss of vibration sense on the legs, increased knee-jerks, extensor plantar reflexes, and some bladder weakness. Diagnosis: a fairly typical case of disseminated sclerosis.

CASE V

A woman, aged 43, was seen in February, 1925. Twelve years previously she had sudden amblyopia of the left eye and numbness of the right arm; this recovered, except for clumsiness of the right thumb and fingers. Seven years later the left eye again failed, and recovered partially. Twelve months before she was seen there was patchy anaesthesia and weakness of both legs, which recovered; two weeks before there was diplopia, and numbness of both left upper and lower jaws and half of the tongue, with loss of taste on the left side: "everything like bran mash." The patient had had bladder weakness for twelve months. On examination the numbness and anaesthesia had passed off, but there were found nystagmus, increased knee-jerks, and extensor plantar reflexes. This was a case of undoubted disseminated sclerosis.

CASE VI

A man, aged 44, who was seen in June, 1927, had had weakness and unsteadiness of the legs for two years, with bladder weakness. Examination revealed increased deep reflexes, ankle clonus and extensor plantar reflexes, and numbness and ataxy of the left hand. Eighteen years previously he noticed there was numbness of the right half of his face, and the left leg became numb and did not feel temperature changes for a week or so. A case of probable disseminated sclerosis.

Bearing these cases in mind and the curious association between disseminated sclerosis and trigeminal tic, the possibility of disseminated sclerosis ultimately appearing in my three cases of total trigeminal anaesthesia which were followed by trigeminal tic had to be considered. The age of two of the patients, 65 and 75, is, however, a very strong point against the possibility of latent disseminated sclerosis being the cause, and none of the three has developed any further signs of organic disease. The denseness of the trigeminal anaesthesia in all three cases, so great that in two of them the cheek or lip was apt to be bitten unconsciously, and the long duration, four years in one case, are quite unlike the slight numbness and light anaesthesia that is occasionally met with in disseminated sclerosis, so I think we may quite fairly exclude that diagnosis.

The type of pain in Cases II and III was in every way characteristic of trigeminal tic, the painful spasms being brief and violent, evoked in the usual manner by the movements of eating and of handling the face, and being completely arrested by alcohol injection of the Gasserian ganglion, which produced total anaesthesia of the whole fifth nerve. In this respect the characteristic trigeminal tic of these cases is identical with that occasionally complicating disseminated sclerosis, and also with what may be called idiopathic trigeminal tic. In all three groups the type of pain is identical, and reacts to treatment in the same way.

It has been shown that a patch of sclerosis may invade the root of the trigeminal nerve without producing any clinical signs of numbness or anaesthesia, while in other cases partial trigeminal anaesthesia may be present for a few weeks as a transient symptom, but in no case hitherto published of disseminated sclerosis has total trigeminal palsy been observed, much less a total palsy which cleared up and then was followed by paroxysmal neuralgia.

I claim, therefore, that these three cases form a group hitherto undescribed. Possibly the lesion may be in the trigeminal sensory root, and similar in type to the well-known retrobulbar neuritis of the optic nerve, which is so common a feature in disseminated sclerosis.

REFERENCES

[1] Weisenburg: *Journ. Amer. Med. Assoc.*, 1910, liv, 1600.
[2] Parker: *Brain*, 1928, li, 60.
[3] Harris: *Neuritis and Neuralgia*, 1926, p. 1 0.
[4] Parker: *Brain*, 1928, li, 46.

RETENTION OF URINE*

BY

F. McG. LOUGHNANE, F.R.C.S.

SENIOR SURGEON, ST. MARY'S HOSPITAL, PLAISTOW; SURGEON, ALL SAINTS' HOSPITAL; UROLOGIST, L.C.C.

Retention of urine is a condition which may be fraught with great danger, either immediately or remotely, to life. In many cases it is merely a symptom of some graver lesion, whereas in others it is the active agent responsible for more serious mischief. This latter chiefly refers to chronic retention, for if the condition is acute remedial measures are promptly instituted, in which case pathological changes fail to develop.

Except in neurological lesions chronic retention is rarely an affection of women or of children, but is very common in elderly men. Unfortunately the condition may exist for years without being diagnosed, the chief culprit being the patient, for failing to report to his medical adviser changes in the frequency and character of his micturition. Even if these have been reported and adversely commented upon he may still delay when urged to seek further advice. In some cases the fault lies with the practitioner, who may hesitate to encourage his patient to further expense, but who unfortunately in many cases fails to realize the grave significance of chronic retention, and is often ignorant of the most modern methods of diagnosing the cause and its treatment. It cannot be too much emphasized that chronic retention of urine is a serious complaint, and is the indirect cause of many deaths of elderly men, deaths which could have been avoided with suitable and early treatment. Sir James Mackenzie did well both for the public and for the profession when he stressed the importance of initial and of little symptoms, but unfortunately, though none disagree with him, few carry out his teaching.

By retention of urine is meant an inability completely to empty the bladder by a voluntary act of micturition. This inability may be acute or chronic. In acute cases the bladder cannot even be partially evacuated, whereas in chronic cases, although micturition occurs, the bladder is never fully emptied. The condition must be differentiated from anuria or suppression of urine, when the bladder is empty owing to failure of the kidney to secrete and excrete urine, and therefore cannot void.

Catheterization may be necessary to establish a diagnosis of retention, although in most cases clinical symptoms and examination should suffice. In chronic cases the amount of residual urine present is of importance. By residual urine is meant that amount drawn off by a catheter after the voluntary act of micturition has ceased. In some cases this may be fallacious unless precautions are taken. Some nervous patients cannot empty their bladder while they are under observation, and others may have interrupted micturition—that is, they may pass a considerable quantity of urine, then the flow ceases for a few seconds, before complete evacuation. These variations of the normal must be taken into account before assessing by catheterization the quantity of residual urine present. By exercise and patience even prostatics can reduce the amount of their residual urine, if they will only overcome their false sense of shame at delayed and prolonged micturition. In these cases a penny spent at a public lavatory would more than repay itself.

Aetiology

The causes of acute retention are:

(1) Stricture.
(2) Enlarged prostate.
  (*a*) adenomatous.
  (*b*) cancer.
  (*c*) infection.
(3) Impacted urethral calculus.
(4) Ligature of penis.
(5) Nervous lesions.
(6) Urethritis.
(7) Post-operative.

*A paper read before the South Middlesex Division of the British Medical Association, March 12th, 1935.

Items 3, 4, 5, and 7 will be considered first, as they are, from a genito-urinary prognostic point of view, of minor importance.

Impacted urethral calculus generally occurs in children or young adults, and can be safely and immediately relieved by removal of the calculus, whether by forceps or by operation. Suprapubic drainage, with its attendant sequelae, should never be necessary. In these cases the discomfort of the patient is extreme, but the damage to the kidney is minimal.

Ligature of the penis is rare, and is generally carried out on himself by a mentally deficient patient. A patient has also tried in this way to prevent discharge when suffering from gonorrhoea. Severing the ligature is alone required to relieve the acute retention.

Nervous Lesions.—In injuries to the spinal cord or the brain acute retention may occur, and this can be readily remedied by means of a catheter.

Post-operative.—Acute retention may also follow certain operations, such as for piles or carcinoma of the rectum. In the case of piles the inability of the bladder to void is probably a reflex, but after abdomino-perineal resection of the rectum retention may be directly due to injury of the sacral and sympathetic nerves, instead of being merely a reflex, for the condition may last for weeks or months, regular catheterization being required.

Urethritis.—I have only once encountered retention due to this cause. It was in a soldier with acute gonorrhoea, and one was reluctant to pass a catheter. Suprapubic drainage was performed, and the retention was not only relieved but the urethral discharge ceased within a week, and the soldier was returned to duty much sooner than those others who were receiving the routine treatment for gonorrhoea.

Stricture and Enlarged Prostate.—It is in these cases that acute retention is really of serious import. The seriousness lies in the lack of knowledge as to how long a condition of chronic retention had preceded the acute attack. If there had been no chronic retention then the treatment is easy and safe—namely, catheterization or cystotomy. If the patient is of the prostatic age, and a large or hard prostate is found to be present on rectal examination, then one should infer that the acute attack has been superimposed upon a chronic condition, in which case relief must be gradual and controlled. A similar line of treatment is necessary if the patient is elderly and gives a history of stricture. Acute retention due to stricture, if the patient is under 45 years, may safely be treated immediately and given complete relief.

Treatment of Primary Acute Retention

By this is meant acute retention not secondary to the chronic condition. The bladder and urethra being in a state of congestion and irritability, extra precautions should be undertaken against the introduction of infection, and non-operative measures should be employed first. These consist in free purgation, a morphine rectal suppository, and a hot bath. The patient should be encouraged not to strain, but to relax, and not to refrain from passing urine in the bath.

CATHETERIZATION

In many cases these measures succeed. Should they fail recourse must be had to the catheter. Before attempted catheterization the urethra must be locally anaesthetized. This is done by injecting with a 10 c.cm. Record syringe 2 drachms of an efficient local anaesthetic, clamping the meatus so as to retain the anaesthetic in the anterior urethra for about five minutes, massaging it back through the posterior urethra into the bladder, and then repeating the performance. The local anaesthetics

advised are 1/2 per cent. cocaine, 2 per cent. novocain, or 1 per cent. phenolaine. The last-named is more expensive, but has the advantage of being antiseptic as well as anaesthetic.

The addition of adrenaline to the anaesthetic solution helps to reduce the oedema and congestion of the urethra, but it must be used sparingly—not more than two drops of 1 in 1,000 solution to each 2 drachms—for the urethral mucous membrane, unlike that of the bladder, readily absorbs, and if too much adrenaline is used cardiovascular symptoms quickly ensue.

It is best to start with a medium-sized silver catheter, for obvious antiseptic and aseptic reasons, and if this fails the passing of smaller gum-elastic catheters may be tried. If no success is attained, then attempts should be made to pass filiform bougies with a screw top. If one of these passes a catheter can then be screwed on to the end and passed into the bladder, so relieving the retention. In a few cases it may be found that a small soft rubber catheter can be passed when rigid catheters fail, but the risk of infection with soft rubber catheters is so great that these should only be used in cases of acute retention as a last resource. In uncomplicated cases of acute retention the bladder may be emptied completely without any ill resulting.

To prevent instrumental infection 1 ounce of 1 per cent. silver nitrate solution should be injected into the empty bladder and left there.

SUPRAPUBIC PUNCTURE

Occasionally all attempts at catheterization fail, and relief by suprapubic puncture must then be given. If an anaesthetic is necessary local injection of 2 per cent. novocain will suffice. In many cases a long exploring needle is sufficient. This is thrust into the bladder, fixed with strapping, connected with rubber tubing, and the bladder then slowly evacuated. Once the bladder is emptied the oedema and congestion of the urethra and neck of the bladder subside, and next day a catheter can often be passed with ease, or the patient may micturate without undue difficulty. If this does not result and the bladder fills up again, then puncture with a curved trocar and cannula will be necessary. The cannula should be left in for several days, and the bladder drained suprapubically. To prevent infection the rubber tube from the cannula should be submerged in antiseptic in the collecting urinal.

Treatment of Secondary Acute Retention

If the acute retention is superimposed upon chronic retention, then the prognosis is not so favourable. An estimation of blood urea and of plasma cholesterol will give some indication of the efficiency of the kidney and of the power of resistance to infection. A low plasma cholesterol is often present in acute retention, but this is not so serious as when it accompanies chronic retention. Its relation to kidney efficiency is not yet accurately known, but a low plasma cholesterol is associated with diminished resistance to sepsis, and this is all-important when surgical intervention is called for. A high blood urea does not necessarily indicate impending uraemia, which sometimes occurs when the blood urea is low. Blood urea is not an accurate indicator of renal efficiency, for it varies much according to the fluid intake, excess of vomiting, or diarrhoea. It is helpful, however, when other kidney tests cannot be applied, and if the blood urea is round about 50 mg. per 100 c.cm. the risks of surgery appear justified.

In the type of acute retention we are now considering immediate and complete emptying of the bladder should never be attempted. The bladder must be decompressed slowly, or the effect on the kidneys will be disastrous. A steady watch must be kept on the pulse and general condition of the patient, and if necessary some fluid must be run into the bladder so as to raise the intravesical tension. If the tongue is dry and the patient drowsy and restless, an intravenous injection of 20 per cent. glucose may be necessary to ward off an attack of uraemia. Acute retention in elderly men suffering from stricture or enlarged prostate is a very serious condition.

If medical measures such as those previously mentioned fail to give relief, then the urethra should be anaesthetized and the smallest possible catheter passed. This should be tied in, and the urine allowed to drain away drop by drop. According to the condition of the patient it may take from one to three days completely to empty the bladder. If a larger catheter has been tied in not more than one to two ounces of urine should be drawn off every hour until the bladder is empty. In some cases—for example, stricture—catheterization may be impossible. It will in this event be necessary to insert a small trocar and cannula or an exploring needle into the bladder suprapubically. Rubber tubing is then connected to the cannula or needle, and slow decompression established.

After the acute attack has been successfully treated further investigation may be attempted and the appropriate treatment given. Whenever drainage by catheter or tube is being carried out urinary antiseptics should be given, either pot. cit. and acriflavine, or hexamine and ac. sod. phosphate. Their value is not very great, but they appear to be of use in some cases. Fluid intake should be increased to encourage diuresis. This not only rids the body of uraemic poisons, but is the best form of bladder lavage. Neither cystoscopy nor urethroscopy should be attempted until the patient is well recovered from his attack of acute retention.

In the treatment of chronic retention of urine the chief difficulty lies not in the removal of the mechanical cause, but in the complications that are present or may ensue. These are renal failure, sepsis, and a morbid cardiovascular system.

Tests for Renal Efficiency

The tests for renal efficiency are many and varied, but only four will be considered here. The easiest is the fluid test, which is largely used in Canada, and can be employed in general practice without much inconvenience. It consists in a forced intake of fluid, with subsequent measurement of the output. If these two approximate then the kidney is fairly adequate to deal with its work. It is not too reliable a test, however, for the function of the kidney is not to eliminate merely fluid, but also solids.

The other test, which is largely depended upon by physicians, is the blood urea test. In elderly men a blood urea of 50 mg. per 100 c.cm. is normal, but there are many non-renal factors which may alter this figure. It varies with diarrhoea, vomiting, and fluid and protein intake. Half the kidney may be destroyed before the blood urea rises from renal causes; therefore the test is only of value in gross lesions of the kidney. De Wesselow has pointed out that the blood urea may be high if the body is desiccated or if the protein intake is high, even if the kidneys are normal. However, in the absence of obvious causes of desiccation, and with normal diet, although uraemia is not caused by the presence of urea in the blood, yet the chemical substance in the blood which is responsible for uraemia is increased if the blood urea is high. It may be mentioned that the blood urea rises with suprapubic drainage, but not with catheter drainage.

The most important chemical test is the urea concentration test of McLean. Normally only a fraction of the kidney need function to serve the needs of the body, but this test necessitates the whole kidney working, and so, if it is unsatisfactory, one realizes how little renal reserve there is. The test consists in giving no fluid after 10 p.m., emptying the bladder in the morning, and then giving 15 grams of urea and 100 c.cm. of water. The urine is collected after the first, second, and third hours, and the quantity of urea estimated. As urea may act as a diuretic it may be necessary in some cases to estimate the percentage of urea in the fourth-hour specimen also. If in the second hour 2 per cent. urea is eliminated, then the kidneys are adequate to withstand any operation that may normally adversely affect them. A figure of 1.5 per cent. or less in the second or third hour precludes any operation such as a one-stage prostatectomy, unless the cardiovascular system and the general clinical condition of the patient are obviously so good as to negative a poor chemical test. Recently a modification of Ambard's formula—namely, the urea clearance test of van Slyke—has been introduced, but it does not appear to be more reliable than the simple chemical test of McLean.

The fourth test—namely, the time interval of reaction of indigo-carmine following a 10 c.cm. intravenous injection—being more of interest to the cystoscopist than to the general practitioner, need not be enlarged upon.

Sepsis and the Cardiovascular Condition

The conditions to be noted here are inflammation of the kidneys and bladder, or perineal abscess. The last always occurs proximal to a stricture, and is generally associated with some degree of extravasation of urine. The treatment is simple—namely, incision of the abscess, retrograde catheterization, a tied-in catheter, and drainage. Inflammation of the kidneys is a serious factor when treatment of obstruction has to be considered. Should the condition be merely one of pyelonephritis much may be done by antiseptic medication and forced diuresis, if necessary combined with catheter or suprapubic drainage, to render future operative procedures comparatively safe. If, however, as not occasionally happens, there is a small but bilateral pyonephrosis, the risk of any operation other than a permanent suprapubic drainage is very high.

Cystitis which is not renal but is obstructive in origin can easily be remedied by lavage and drainage. If drainage is necessary over a long period the suprapubic is always preferable to urethral catheterization, and continuous irrigation is preferable to intermittent. In many cases, even when the cystitis is secondary to a gross renal lesion, this method of continuous suprapubic drainage will so mitigate the risk of exacerbating sepsis as to justify a line of treatment shortly to be mentioned.

In all cases the urine should be examined for sugar, and if any is found insulin should be administered and the patient put on an appropriate diet. It is difficult to abate sepsis in the bladder or kidney if glycosuria is present, and it must be remembered that prior to the introduction of insulin it was rare for a prostatic to recover from operation if he were suffering at the same time from diabetes. He generally died from sepsis or coma.

The cardiovascular system is all-important when one is treating elderly men suffering from chronic retention of urine, and one rarely finds it as satisfactory or as healthy as one would like. It is the condition of the myocardium rather than the presence of valvular disease which causes anxiety. Of the two, low blood pressure, below 120 mg. of mercury, is more serious than high blood pressure. Although haemorrhage—for example, after a prostate operation—is greater in cases of low blood pressure, there is not much greater risk from this source, because haemorrhage can be treated and controlled. The seriousness of low blood pressure is the greater tendency to cerebral thrombosis and pulmonary embolism. Both these are more prone to occur if the bladder is septic, because of the close proximity of the prostatic plexus of veins. To prevent venous stagnation the patient should be given gentle massage, and be encouraged to move his limbs while lying in bed. Deep breathing exercises are also very beneficial, and the patient should also be given stimulants.

Diagnosis and Treatment of Chronic Retention

The chief symptoms of chronic retention are frequency of micturition, a poor urinary stream lacking in force, and dribbling. Pain is seldom a feature in adults, unless cystitis or urethritis be present, but it is often very noticeable in a child, in whom also at the same time the hypogastrium may be distended. In elderly men the symptoms may only be those of chronic uraemia—namely, headaches and thirst—but a history of frequency, especially nocturnal frequency, may be elicited in answer to direct questions. This frequency is often incontinence with overflow, in which case the bladder will be found distended, sometimes even up to the umbilicus. Although this is a feature commonly found in lesions of the nervous system, it may accompany chronic and progressive enlargement of the prostate, or chronic stricture. The symptoms of chronic retention are of little aid in arriving at an accurate diagnosis of the case. They merely indicate the necessity of fuller and further investigation. In all cases cystoscopy and urethroscopy are essential before mechanical causes can be eliminated. The spinal anaesthetic test, combined with *x* rays, is not so informative in vesical derangement as it is in bowel lesions. A neuro-muscular dysfunction can only be assumed to be present in the absence of demonstrable mechanical obstruction, and in cases where no definite lesion of the nervous system can be shown to exist.

As regards treatment, cases fall into two groups:

1. If the cause of the retention is an organic lesion of the nervous system, then repeated catheterization or suprapubic drainage will be necessary.

2. If the cause is a neuro-muscular dysfunction relief may be obtained by sympathectomy.

The act of micturition is a complex reflex, involving both the bladder musculature and the two sphincters. The mechanism is diphasic. The filling phase, purely involuntary, is accompanied by dilatation of the bladder and contraction of the internal sphincter. The emptying, or detrusor phase, chiefly voluntary, occurs when the sphincters dilate and the bladder musculature contracts. There are three sets of nerves involved—namely, the hypogastric, the pelvic nerves, and the pudic nerves. The hypogastric is derived from the presacral nerve, which is composed of branches from the first, second, third, and fourth lumbar sympathetic ganglia, and from the intermesenteric plexuses. The fibres are both pre- and post-ganglionic. The *filling phase* is dependent upon motor stimuli from the presacral sympathetic nerve to the internal sphincter and inhibitory impulses to the bladder muscle. The *detrusor phase* is controlled by the pelvic nerves, which carry motor stimuli to the bladder muscle and inhibitory impulses to the internal sphincter. The pudic nerves chiefly excite the external sphincter and the accessory muscles of control.

In the absence of any demonstrable organic nervous lesion or of any mechanical obstruction to free micturition, division of the presacral nerve is often curative of a chronic retention. In the presence of a sacral cord lesion it may also be effective. Cystoscopy is of some assistance. In nerve lesions the bladder is finely trabeculated, due to atony, whereas in prostatic or stricture

cases the trabeculation is coarse. The services of a neurologist may be necessary to exclude organic nerve lesion. A Wassermann test should be taken, to exclude syphilis and tabes. Urethroscopy will often suggest the presence of tabes, for then the sphincter is lax and the upper portion tends to fall down on the urethral orifice. These types of cases are often associated with overflow incontinence—that is, the bladder is always over-full due to chronic retention, and the excess urine simply dribbles away. Permanent drainage by a de Pezzer catheter will then be indicated. Chronic retention may be a sequel of abdomino-perineal resection of the rectum, and may last for six or eight weeks, during which time repeated catheterization will be necessary. It is due to trauma of the nerves innervating the bladder—to the clearing out from the hollow of the sacrum and the pelvis all possible cellulo-lymphatic tissue. If this major operation is successful the inconvenience of the resulting retention is of minor importance, seldom lasting more than two or three months, and causing no permanent damage.

Dilatation

The treatment of chronic retention which is secondary to stricture of the urethra is simple—namely, gradual decompression of the bladder followed by dilatation of the stricture. There are two methods of dilatation—rapid and slow. In special circumstances the first may be preferable. It consists in performing an internal urethrotomy, followed by the passing of Clutton's bougies up to size 28/32. Treatment must be continued, at decreasing intervals, otherwise the stricture will re-form.

When possible, gradual dilatation should be the operation of choice. A filiform bougie is passed through the stricture into the bladder, to serve as a guide. On to the end of the filiform bougie is then screwed a larger bougie, which is passed through the stricture. On withdrawal the procedure is repeated with bougies of increasing calibre, until a size No. 8 French passes. After this, at weekly intervals, gum-elastic bougies are passed until size No. 22 French passes easily. Then the gum-elastic bougies are discarded in favour of Kollmann's dilator. This also must be passed at weekly intervals, being screwed to a higher gauge on each occasion, until finally it can be registered to 45 without undue discomfort or causing haemorrhage. After this the weekly intervals can be increased until ultimately twice a year will be sufficient. This should be continued for the rest of the patient's life. In America two days are selected which cannot be forgotten—namely, New Year's Day and Independence Day. The bi-annual dilatation with Kollmann's 45 or Clutton 28/32 is very important, for many patients, having been brought to this stage of dilatation, have thought themselves cured, and in consequence have failed to attend for treatment until three or four years have elapsed. In many of these it has been found that the stricture has so contracted that the whole course, beginning with filiform bougies, has had to be repeated.

It must be emphasized that a stricture is never cured. It can be dilated, and kept dilated, only so long as the patient remains under treatment. Therefore, for the good of the kidneys the patient should be impressed with the necessity of re-attendance. The symptoms of stricture—namely, delayed, prolonged, and straining micturition—are merely inconveniences. It is the effect of back pressure on the kidneys, causing impaired renal function, and of ascending infection from stagnant urine, that are the real dangers in faulty treatment of urethral stricture. To prevent, and if necessary correct, stricture formation, every gonorrheal patient should be under observation for two or three years after his initial urethritis has been ostensibly cured.

Enlarged Prostate

In the treatment of chronic retention due to enlarged prostate the stages are: gradual decompression of the bladder, attempts to improve kidney function by drainage, the amelioration of sepsis, and then removal of the cause.

The first has already been described. Drainage of the bladder by a retained catheter, except as a temporary measure, is not recommended. It soon gives rise to urethritis, and sometimes to epididymitis. Only drainage by a de Pezzer catheter or tube can be relied upon to give adequate relief to the kidneys. This drainage in favourable cases may last a fortnight, but often months of drainage will be necessary before it is safe to operate. Chief guidance is given by renal function tests and the condition of the cardiovascular system, which have already been discussed. To mitigate sepsis suprapubic drainage and free lavage are the remedies chiefly to be relied upon. In the presence of marked sepsis any operation on the bladder is doomed to failure, and may leave the patient in a worse-off condition than before. Sepsis is often the cause of contracture of the bladder neck following prostatectomy and of persistent suprapubic vesical fistula. Prolonged drainage, lavage, and abundance of patience will often enable a successful operation to be carried out with good prospects of complete relief and cure.

The different types of prostatic operations need hardly be discussed, except to enumerate them in an ascending order of merit—namely, the perineal, Freyer's, Walker's, and Harris's. The chief indication for a perineal prostatectomy is a fibrous prostate complicated by prostatic calculi. Suprapubic prostatectomy should never be attempted unless the urea concentration is from 1.8 to 2 per cent. in the second hour, due allowance being made for diuresis. Operative difficulties arise when a Walker or a Harris operation has to be done in two stages.

The operation of choice in prostatic obstruction is endoscopic resection by the MacCarthy method. In "good risk" cases—that is, where the second hour urea concentration is approximately 2 per cent., the mortality is practically *nil*, whereas in "bad risk" cases, with a urea concentration of about 1.4 per cent., the mortality is no greater than that of good risk cases in the major operation. Endoscopic resection is the safest, and a satisfactory operation in the majority of cases, irrespective of the size of the prostate, although there are naturally certain types of case which are more prone to give 100 per cent. good results. The fibrous prostate should always be treated by resection. In many cases of suprapubic prostatectomy chronic retention has persisted. In some cases this has been due to a faulty operation, in others to a faulty selection of cases for the operation. In these cases a final trimming by resection may have to be undertaken. Prior to resection, a complete cystoscopic and urethroscopic examination is necessary to enable the operator to visualize the amount of tissue which it is necessary to remove. The ideal cases for resection are the fibrous prostate, the middle-lobe enlargement, and early general enlargement.

It follows that if patients are to get the best benefit from modern treatment they must be seen by the urologist in their early stages. The essential symptom of chronic retention is frequency, especially nocturnal frequency. Too often patients are first referred to a urologist when they are about 65 years of age, when they give a ten- to fifteen-year history of frequency, when the prostate is palpably enlarged and the cystoscope reveals marked trabeculation of the bladder. This is a state that, with modern methods of diagnosis and treatment, no patient should be allowed to attain. The risk of delay is renal failure because of back pressure, and this can be prevented. The future lies with the general practitioner, who appraises symptoms before signs.

ACETYLCHOLINE IN EMBOLISM OF THE RETINAL ARTERY

BY

H. CAMPBELL ORR

HONORARY SURGEON, WOLVERHAMPTON EYE INFIRMARY

AND

J. HORTON YOUNG

HOUSE-SURGEON, WOLVERHAMPTON EYE INFIRMARY

Acetylcholine has been used on several occasions for thrombosis and for spasm of the retinal arteries, but we can find no complete record of a simple embolism being so treated. In those cases reported the injection was given intramuscularly, and in our cases subconjunctivally. Before describing our own case of retinal embolism it may be of interest to give brief notes of an earlier case—that of an elderly man—in which arteriosclerotic changes in the retina gave rise to recurrent attacks of visual defect. The enormous dilatation of the fundal vessels which followed administration of acetylcholine, and resulted in relief of the ocular symptoms, suggested the possibilities of this drug in retinal embolism.

A patient, J. T., was sent to one of us (H. C. O.) by Dr. J. A. R. Wells on October 15th, 1934. He was 67 years of age, and his occupation was a steel trap manufacturer. He complained that fourteen days earlier the left eye had become "glimmery." On closing his right eye he saw everything with a purple tinge with his left eye. This was immediately followed by vision in a small portion of the left temporal field, the remainder of the field being blank. He lay down to rest, and the complete visual field returned in a short time. This experience recurred a week later, and since then had returned frequently, especially after walking. On the date of examination the vision in the right eye was one letter of 6/36 line and with glasses 6/9. In the left eye one letter of 6/24 line and with glasses 6/9. The pupils were dilated with homatropine and cocaine. The right fundus showed a small haemorrhage about one disk diameter above the right macula. The arteries showed advanced sclerotic changes. During the examination he complained that the field of vision in the left eye had contracted, and that he had only a small visual area in the paracentral field. On examination the left fundus showed well-marked pallor of the disk, with irregular spasmodic contraction of the retinal artery. The column of blood could be seen moving along sluggishly and in a jerky stream. Acetylcholine, 3 minims, was injected under the temporal conjunctiva in each eye, and the fundi were kept under observation constantly. One could then observe the considerable increase in size of the fundus vessels. Both arteries and veins enlarged enormously. The whole visual field in the left eye returned completely, and the patient said that he could see much more clearly. When the dilatation was great the blood stream slowed down considerably, and with the Gullstrand ophthalmoscope the blood cells could be seen rolling over and over in their passage down the vessels. Camphor in oil was injected intramuscularly and the patient was sent home. On his second visit the fundi had returned to normal for a man of his age. There had been no recurrence of visual defects, and glasses were ordered. Since then the patient has had no return of ocular symptoms.

A Case of Retinal Embolism

R. M., aged 26, a rubber-worker, reported at the out-patient department of this hospital at 6.30 p.m. on December 17th, 1934, complaining that "when he woke up this morning he had lost part of his sight: he could not see the roof of the room with his right eye, and people had eyes and nose but no forehead when looked at with the right eye." He had no pain, and the rest of his field of vision appeared normal. The left eye was normal. There was a twelve-hour interval between the time the condition was noticed and his report to the hospital. There was no evidence of functional or organic nervous disease in the family, and the patient's mother, father, sisters, and brothers were quite healthy.

The patient himself had never been to see the doctor before for his health. There was no history of rheumatism, and no suggestion of sympathetic nervous instability, or any question of venereal disease. He smoked three ounces of tobacco per week, but took no alcohol. There was no history of chilblains. On examination he was of strong, athletic type, six feet in height, and in good condition. There was no evidence of goitre, or functional tremor in hands or tongue. The teeth were good. The sinuses and antrum were clear and the tonsils small, with no disease in the crypts. Dr. R. L. Mackay examined him at the Royal Hospital, and confirmed the absence of any defect in the circulatory, respiratory, and nervous systems. The Wassermann reaction was negative. He had had herpes on his right upper lip for five days.

OCULAR EXAMINATION

The right pupil was dilated with one drop of atropine to "fix" the pupil so that the ensuing phenomena could be studied more accurately.

The right fundus was clear and well defined, but showed pallor in its lower inferior temporal quadrant. The blood vessels as they emerged from the disk were quite normal, no abnormal kinking or spasm being present. On tracing the

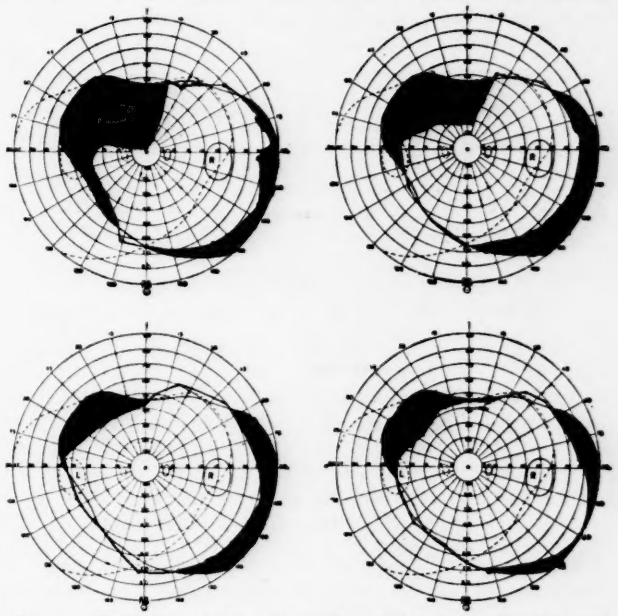


FIG. 1.—Perimeter charts. Top left = 6.50 p.m., December 17th, 1934. Top right = 8 p.m. the same evening. Bottom left = 9.30 a.m., December 18th, 1934. Bottom right = January 4th, 1935.

vessels to the periphery, however, the right inferior temporal branch of the retinal artery was blocked five disk diameters along its course by a blackish mass, which was partially obscured by whitish exudate. Beyond this point the artery divided into two branches, both of which were empty for a distance of one disk diameter, and this was followed by a column of purplish-blue blood, broken up into distinct segments, each segment being about 1/5 disk diameter in length. The vessels walls were normal, there being no undue thickening or calcification, and no irregularity in the walls or lumen of the vessels. The fundus reflex in the inferior temporal region was definitely pale, and extended upwards to the macula lutea and inferiorly to the junction of the nasal and temporal segments. The right inferior temporal artery bisected this area of pallor. The colour of the fundus reflex was altered, giving the appearance of oedema. The field of vision of both eyes was investigated, the left being normal. The right field of vision was defective in the upper nasal quadrant and extended to the point of fixation (see perimeter chart), there being absolute blindness in the area for all colours. The vision in the affected eye was 6/18.

A diagnosis of embolism was made, and in view of the extreme pallor, and of the fact that the macula was involved, and the blockage had been present at least fifteen hours, we decided to use a more powerful therapeutic agent than is usually advocated in these cases.

SUBSEQUENT CLINICAL COURSE AND TREATMENT

Acetylcholine (B.D.H.), 8 minims, was injected subconjunctivally—4 minims on the lower temporal quadrant and

4 minims in the lower nasal quadrant, as far back as the equator of the globe. The patient was thereafter under constant observation for four and a half hours (7 p.m. till 11.30 p.m.). Ten minutes after his primary injection (7.10 p.m.) the ocular vessels, conjunctival and retinal, were greatly enlarged (about three times their original size), while the retinal and choroidal veins became engorged. The area of pallor became well delineated.

At 7.30 p.m. the whitish exudate was becoming absorbed. At 8 p.m. the embolism moved into the arterial branch B (as shown in the diagram), while the branch A filled up with blood. At 8.30 p.m. (one and a half hours later) the embolism started to move down artery B, there being a distinct junction between the red advancing column of blood and the purplish-black embolus. The column of blood was convex at its advancing edge. The whitish exudate was much less, the arterial function now being evident. At 9.30 p.m. the whitish exudate had completely disappeared, and the embolus had reached the next arterial junction on the artery B. The fundal pallor was definitely receding, and started from the more peripheral borders bounding the horizontal and the vertical margins of the area, so that the macula lutea was freed from arterial strangulation.

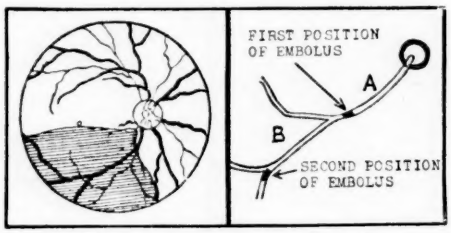


FIG. 2. FIG. 3.

FIG. 2.—Fundus showing area of pallor (shaded) when first observed.
FIG. 3.—Diagram showing movements of embolus in right inferior temporal branch of retinal artery.

Acetylcholine, 5 minims, was again injected. This time the patient complained of extreme fullness of the globe ("as if it was bruised"), but said that he could see people distinctly. At 10.30 p.m. (three and a half hours later) the embolus was still fixed at the arterial junction of artery B. The pallor was receding very slowly. The acuity of vision had risen to 6/6, while only a small portion of the upper and inner field was missing. It was thus obvious that his central vision had been saved, even though he might not have a full peripheral field. At 11.30 p.m. the embolism remained fixed in the same position.

Investigation was suspended till 9.30 a.m. the next day, when the entire retinal system appeared normal, and although there was still pallor present this was limited to an area along the course of this vessel. *The retinal vessels were still dilated*, while the ocular conjunctiva was oedematous. The visual acuity was now 6/4, and the field of vision showed a defect in the upper inner quadrant smaller than that shown before the injection of the previous day and not interfering with central vision. The accompanying fields of vision show the progressive increase in the field of vision. For the next few days the pallor of the affected area of the fundus persisted, but visual acuity was still 6/4 in the right eye. On the fourth day the field of vision was normal, and was still so on January 4th, 1935.

Summary

1. The use of atropine did not alter the action of the acetylcholine on the vessels.

2. No symptoms of collapse were present, and the effect appeared to be purely local.

3. The first injection was relatively painless, but the second was slightly painful for about five minutes.

4. The retinal exudate was absorbed within three and a half hours.

5. The conjunctival oedema following the first injection subsided within fourteen hours, but that following the second injection lasted thirty hours.

6. The effect of acetylcholine on the vessels appeared to be sustained by giving a second injection.

7. There was no corresponding dilatation of the blood vessels of the left eye.

8. Subconjunctival injections of acetylcholine appear to be the best form of treatment for embolism of the retinal artery.

AVERTIN AS A COMPLETE ANAESTHETIC IN CHILDREN

A SURVEY OF 700 CASES

BY

JOHN BOYD, M.D.

ANAESTHETIST, BELFAST HOSPITAL FOR SICK CHILDREN

This paper represents an attempt to produce surgical anaesthesia in children by the use of avertin without the aid of inhalation anaesthetics. This being so, almost all the earlier patients who came to operation in the Belfast Hospital for Sick Children were given avertin as a routine, so that the cases were not specially selected. The total number of cases was 700, of which more detailed notes were kept of 350. These 700 included most of the usual children's operations which one meets in intern hospital practice.

Technique

The technique of avertin administration in this series followed fairly closely that laid down by the manufacturers, except that the child was usually given the avertin in the general ward without any attempt being made either to darken the ward or to keep down the noise.

Fifteen minutes after giving the avertin the child received a hypodermic injection of morphine and atropine in doses varying with the age as follows:

Under 2 years	morphine	1/40 grain
Between 2 and 6 years ...	,,	1/20 ,,
Between 6 and 10 years ...	,,	1/12 ,,
Over 10 years	,,	1/10 ,,

Children under 10 years of age had atropine 1/180 grain, while those over 10 had 1/150 grain. The hypodermic injection of morphine and atropine was given fifteen minutes after the avertin for two reasons: (1) the pain from the hypodermic injection may cause the child to expect a similar pain when the avertin is being given, and thus induce him to fight against it and return it; and (2) if the avertin anaesthesia seems too deep the morphine is withheld or the dose lessened.

In some of the later cases the injection of 1 per cent. novocain was made into the subcutaneous tissues of the field of operation, even into those areas into which the towel clips were to be inserted.

Discussion of Results

The 700 cases included children of all ages from 3 months to 13 years. The range of weights was from 11 lb. to 9 st. 1 lb. The average time between the administration and the bringing of the patient to the theatre was forty-five minutes; the average duration of operation was thirty minutes, varying between the limits of five minutes and one hour fifty minutes.

In classifying the quality of anaesthesia we considered those who needed an inhalation anaesthetic throughout the operation as though they had had no avertin as "poor," and those who needed a little for the skin incision only as "fair." Those who needed no inhalation anaesthetic were classed as "good."

The dose of avertin given to each patient was increased gradually as time went on. In a study of Tables I and II we see the gradual decrease of those requiring ether in addition to avertin as the dose of avertin was increased. The reason for the gradual improvement with the dose of 0.175 gram from 1932 onwards was improved technique and case selection.

The reason for the variation in the effects produced by a dose of 0.175 gram per kg. body weight was mainly because some of the patients returned the solution before it had time to be absorbed. Of the thirty-one cases (Table I) in which the anaesthesia produced was poor twenty cases (64 per cent.) returned some of the solution

TABLE I.—*Quality of Anaesthesia for Different Dose Groups*

Group	Dose Given (gram per kg. Body Weight)	Needing no Inhalation Anaesthetic	Needing some Inhalation Anaesthetic		Total Cases in Group	Percentage Needing some Addition
		Good	Fair	Poor		
1	Under 0.15	6	3	0	9	33⅓
2	0.15 to 0.17	46	8	4	58	20
3	0.175 and over ...	229	27	27	283	19
Total		281	38	31	350	—
Percentage		80.4	10.8	8.8	—	—

TABLE II.—*Quality of Anaesthesia in Different Years*

Year	Dose in grams per kg.	Avertin Alone	Avertin and Ether	Avertin and Novocain Alone	Avertin, Novocain and Ether	Total	Percentage Requiring Ether
1930	0.10	0	8	0	0	8	100
1931	0.15	7	33	0	0	40	82
1932	0.175	96	38	0	0	134	28
1933	0.175	142	50	59	24	275	27
1934	0.175	129	19	42	11	191	16
1935	0.175	34	1	16	1	52	3
Total ...		398	149	117	36	700	—

before fifteen minutes, whilst of the thirty-eight classed as fair anaesthesia twenty-five (66 per cent.) returned some of the solution before fifteen minutes. Using a 3 per cent. solution of avertin, forty-eight out of 298 (16 per cent.) returned some of it, whilst with the 2½ per cent. solution recommended by the makers fourteen out of fifty-two (27 per cent.) returned it. Thus all the later cases were given a 3 per cent. solution. When we tried the experiment of leaving the catheter in the rectum with the funnel attached for twenty minutes there was an appreciable diminution in the number who returned it. When the child attempted to return the solution it was forced up into the funnel, which thus acted as a safety trap.

Table III shows the results of investigation into the effects of avertin on the blood pressure and pulse rate in children. It will be seen that with the larger dose the average fall of blood pressure is not any greater than with the smaller dose. In most cases there was a fall of blood

TABLE III.—*Average Fall in Blood Pressure and Rise in Pulse Rate*

	Drugs Used	Dose Given (gram per kg. of Body Weight)	Total in Each Group	Average Fall in Blood Pressure (mm. Hg)	Average Rise in Pulse Rate (per minute)
Group 1	Avertin and Morphine alone	Between 0.15 and 0.17	28	32	40
Group 2		0.175 and over	51	28	50
Group 3	Avertin, Morphine, and Novocain	0.175 and over	29	33	51

pressure shortly after administration. This continued until the patient was brought to the theatre. Whether or not any ether or other additional anaesthetic was given the blood pressure rose almost up to normal again. In all cases shortly after the avertin was given there was an acceleration of the pulse rate. The variation in pulse rate and in blood pressure during the operation seemed to accompany each other.

As the majority (55 per cent.) of those needing an additional anaesthetic required it for the skin incision only we tried the result of injecting some 1 per cent. novocain into the site of the skin incision. Twenty or thirty c.cm. were injected, according to the size of the area involved. Table IV indicates that the addition of novocain helps the avertin anaesthesia, and obviates the necessity in some of the borderline cases for the use of an inhalation anaesthetic.

TABLE IV.—*Quality of Anaesthesia Arising from Different Drug Combinations*

Drugs Used	Complete Anaesthesia	Supplemented Anaesthesia	Percentage Needing More
Avertin, morphine, and atropine	393	149	29
Avertin, morphine, atropine, and novocain	117	36	23

Table V represents an attempt to estimate the depth of the anaesthesia from a consideration of the state of the reflexes. Four reflexes were made use of: (1) The corneal reflex. (2) Pupillary light reflex. (3) Nip reflex (that is, pinch up the skin of the neck with the thumb and fingernails and watch the arm and hand of that side; if the arm is raised quickly the reflex is reckoned positive, if it is raised slowly and only a little the reflex is slightly positive, and if there is no movement the reflex is reckoned negative). (4) The dilating reflex (that is, watch the pupil just as the skin incision is being made; a positive reflex is indicated by the dilatation of the pupil).

TABLE V.—*Condition of Reflexes as a Guide to Depth of Anaesthesia*

Reflex	Absent (negative)	Present (positive)	Number Positive Needing Addition	Percentage Positive Needing Addition
Corneal	336	14	14	100
Light	284	66	29	44
Nipping	110	sl. 177 ++ 63	5 63	3 100
Dilating	11	27	1	4

In most cases, whether the anaesthesia was complete or not, the corneal reflex was absent; only in those patients who came to the theatre awake was it present. The light reflex was absent in 83 per cent. of the cases, but was present even in some cases which needed no additional anaesthetic. The nip reflex was absent in 31 per cent. These all were completely anaesthetized. There was a definitely positive response in 18 per cent., all of which cases needed some additional anaesthetic. The remaining 51 per cent. were slightly positive, and of these only 3 per cent. needed some more anaesthetic. The dilating reflex was absent in 34 per cent., all of whom were fairly deeply anaesthetized with avertin alone. Of the 66 per cent. in which it was positive, only 4 per cent. needed an inhalation anaesthetic. It would seem, therefore, that to be completely anaesthetized with avertin alone the following should be the state of the reflexes:

Corneal: Absent.
Light: Absent.
Nipping: Absent or slightly positive.
Dilating: Present. (The size of the pupils seems to be no indication of the depth of the anaesthesia.)

Most of the patients slept for a long time after the operation. The average time was six and three-quarter hours, ranging between two hours and sixteen hours. This was a decided advantage, for the patients wakened up quietly, with most of their pain gone, and usually dropped off to sleep again to waken an hour or so later. There was very little post-operative vomiting, and none of the retching usually associated with ether anaesthesia. Of those who had avertin alone only 9 per cent. vomited

after operation, whilst of those who had to have the avertin supplemented 17 per cent. showed post-operative vomiting.

Of the 700 cases only two had any post-operative respiratory trouble—one a bronchitis, which cleared up in two days, and one case of pneumonia, which ran a high temperature for a few days and then got quite well. There were no deaths in the series due to the avertin. All the patients except two left the hospital alive. One of these had multiple brain abscesses, and died from this condition ten days later. The other was found at operation to have an extensive inoperable abdominal tumour, which caused her death from acute intestinal obstruction three weeks later.

Only eighteen of the cases (2.5 per cent.) gave rise to any anxiety. Eight became pale during the operation without other signs of shock, five had shallow respiration, and four showed shock after operation. These all improved after coramine was injected. There was one case of acute haemorrhagic colitis, which cleared up and made a good recovery.

The best mixture and dosage seem to be:

Avertin: 0.175 to 0.2 gram per kg. body weight.
Morphine: 1/40 to 1/10 grain according to age.
Atropine: 1/180 grain to children under 10 years of age and 1/150 grain to those over 10 years.
Novocain: Enough 1 per cent. solution locally to produce a field block (about 20 to 30 c.cm.).

This seemingly large dose is well tolerated by children, who have the ability to detoxicate and excrete it easily. In this respect the giving of avertin to children compares favourably with its administration to adults. A dose of 0.12 gram per kg. body weight causes more depression of the vital centres in adults than does a dose of 0.175 gram in children.

The most marked effect of the introduction of avertin anaesthesia into the Belfast Hospital for Sick Children was a psychological one. Before its introduction the sight of a child being led away from the ward into the theatre crying and protesting filled the other children with a dread of the time when their turn would come. This is all changed. The child watches the one in the next cot being given his avertin and going off to sleep quite naturally. He then submits himself to the same procedure without fear or suspicion. The patient also appreciates the long sleep after the operation.

Conclusions

1. Avertin can be given to children as a complete anaesthetic with safety, provided a careful look out is kept for danger signals and the patient treated accordingly.

2. Complete avertin anaesthesia in children is better and more suitable than basal anaesthesia followed by an inhalation anaesthetic.

3. Complete avertin anaesthesia in children approaches more nearly the ideal anaesthetic than any other.

4. It is much safer in children than in adults, as in the former there is better detoxication and elimination.

5. The best method of administration to produce complete anaesthesia is to combine avertin 0.175 gram per kg. body weight with morphine and atropine according to age, and 20 to 30 c.cm. of novocain as a field block.

6. A 3 per cent. solution of avertin is better retained than a 2½ per cent. solution.

7. The depth of anaesthesia is best assessed by nipping the skin of the neck and watching the arm for movements.

8. The fall in blood pressure is not of serious moment.

9. Complete avertin anaesthesia is contraindicated in (*a*) very young and (*b*) very cachectic children.

I wish to express my indebtedness to Mr. T. S. Kirk, Professor P. T. Crymble, Mr. H. P. Hall, and Mr. Ian Fraser for the opportunity of using avertin with their cases and for their advice and help.

RUPTURE OF THE NORMAL SPLEEN IN PREGNANCY

BY

E. C. BURNETT, M.B., CH.B.
HONORARY SURGEON TO GRIMSBY AND DISTRICT HOSPITAL

AND

W. H. McMENEMEY, M.D., M.R.C.P.
FORMERLY HOUSE-SURGEON, GRIMSBY AND DISTRICT HOSPITAL

Rupture of the spleen is a rare complication of pregnancy. Kotschnew and Manenkow[1] in 1930 were able to collect only fourteen cases from the literature, and to these they added one of their own. Cases have also been reported by Stretton,[2] by Bohler,[3 4] and by Smith, Morrison, and Sladden.[5] In most of these the spleen has been found to be abnormal, or else there has been a history of direct trauma. The present case is recorded, first, because, except for congestion, the spleen was normal, and, secondly, because the trauma, although definite, was slight. It resembles fairly closely the two cases reported by Bohler and that of Stretton.

CASE RECORD

Mrs. X., aged 43, was within a fortnight of the expected date of her sixteenth confinement. She was a healthy woman, with no previous illnesses to record and no complications of labour or of the puerperium with any of her fifteen children, all of whom were well and alive. She had been reading in bed on this particular night, and at about 12.30 a.m. she leant back to switch out the light, which was above and directly behind her. She did this with her left hand. In the very act of reaching for the switch she was seized with pain under the left costal margin, so severe as to prevent her from resuming her original position. In a few minutes she had sufficiently recovered to be able to lie down in bed. The pain persisted throughout the night, and she vomited once. She was seen at 6 a.m. and was found to have a temperature of 99° and a pulse rate of 80. She still complained of pain in the left costal margin, and in this area she was tender. There were no signs of labour having commenced. She was watched carefully throughout that day, and by 6 p.m. her condition was very much as it had been twelve hours previously. During the course of the day she had vomited once and the bowels had moved. She still complained of the pain, and by now she felt weak. Her pulse rate was 86. She was sent into hospital late that evening (May 22nd, 1930).

On admission she had, in addition to a constant pain in the left hypochondrium, vague pains in both flanks. Her temperature was 99° and her pulse frequency 132. There was no blanching, sweating, or sighing respirations. The tongue was dry and covered with a white fur. The heart and lungs were normal, with the exception of diminished movement and impaired air entry at both bases. The abdomen was tense, the fundus uteri reaching almost to the xiphisternum. The wall of the uterus could be felt contracting at regular intervals. The foetus was lying in the left occipito-anterior position and the head had not yet engaged. The foetal heart was not heard, and the patient volunteered the statement that she had not felt movements since the onset of the pain. There was diffuse tenderness in both flanks and also the xiphisternum, together with some resistance, and dullness to percussion in the left flank. There was no pain in the left shoulder. Per vaginam, the external os was closed.

OPERATION

It was thought that some solid viscus had ruptured and that laparotomy must take place without delay. The peritoneum was opened through a left paramedian incision, and a considerable quantity of blood was found in the abdominal cavity. Examination soon showed that the bleeding was coming from the spleen. This organ was somewhat enlarged, and there was a jagged tear throughout the anterior border, some two inches long, extending on to the diaphragmatic and gastric surfaces. At one point the torn surfaces had separated to a distance of

nearly an inch and a half. An attempt to suture the rent was unsuccessful, and there was no alternative but splenectomy. Because of the advanced stage of pregnancy, this was not possible without previous Caesarean section. This was therefore done, and the placenta was found lying anteriorly. The spleen came away with ease, and there were no adhesions. It was noted that the pedicle of the spleen was normal, and it was not thought likely that the enlargement of the organ was in any way due to torsion of the pedicle. Whilst in the operating theatre her condition became critical. An auto-transfusion was performed, and the patient made an uninterrupted recovery, being able within a few days to feed her infant, a healthy male of 7½ lb.

On examination, the spleen was slightly enlarged and very soft. Except for the rent already described, the capsule was intact. The organ was submitted to Dr. W. Wallace for microscopical examination, and he reported that, except for congestion, no pathological feature was to be noted.

Eighteen months later the patient was readmitted to hospital, in the ninth month of pregnancy, on account of abdominal pain, absolute constipation, and vomiting. At operation, a band was found constricting the splenic flexure of the colon. This was divided and the patient made a good recovery. Three days later she delivered herself of a healthy child (her seventeenth).

At the present time (May 1st, 1935) this patient and both children are in excellent health.

REFERENCES

[1] Kotschnew, M. S., and Manenkow, P. W.: *Zentralbl. f. Gynäk.*, 1930, liv, 3106.
[2] Stretton, J. L.: *British Medical Journal*, 1926, i, 901.
[3] Bohler, E.: *Bull. Soc. d'Obstét. et de Gynécol. de Paris*, 1932, xxi, 141.
[4] Idem: Ibid., 1933, xxii, 707.
[5] Smith, A. H. D., Morrison, W. J., and Sladden, A. F.: *Lancet*, 1933, i, 694.

Clinical Memoranda

Modified Attack of Diphtheria following Antitoxin Immunization

In view of recent work on prophylactic diphtheria immunization, the following case may prove of interest.

M. B., aged 8½ years, was immunized in October-November, 1934, in the course of routine school immunization against diphtheria. Three intramuscular injections of T.A.F. (toxoid-antitoxin floccules) were given at fortnightly intervals, in doses of 0.5, 1, and 1.5 c.cm. respectively; the final dose having been given on November 8th, 1934. In March, 1935, the child attended the school clinic and received treatment for recurring "boils" on the arms and legs. On the morning of April 4th, 1935, he complained of sore throat and slight malaise. On examination the left tonsil was found to be covered with a caseous deposit, lightly adherent to the mucous membrane, which latter showed a surrounding zone of inflammatory tissue, suggesting a localized resistance to the focus of infection. There was no definite diphtheritic fetor, no enlargement of cervical glands, and no pyrexia. On swabbing, no bleeding took place from the mucous surface, but examination of the swab proved the presence of the organism of diphtheria. The case was admitted to an isolation hospital on April 6th. On inquiry on April 12th progress was reported to be satisfactory, no further symptoms having developed and two consecutive negative swabs having already been obtained.

In view of the suggestion that immunity from the disease is developed in from *four* to *six* months after completion of the course of prophylactic treatment, it might be of interest to learn the experiences of other workers in this field.

SARAH HARRIS,
Assistant M.O.H. and School Medical Officer, Keighley, Yorks.

A Treatment for Warts

Having heard from a schoolmaster that he had cured boys' warts by means of the continuous application of elastoplast, I decided to try the method upon two inveterate cases. I append a description of two cases, with photographs of the second case before and after treatment.

CASE I.

A married woman, a grocer's assistant, aged 38 years, had had three warts on the terminal segment of the right ring finger, and one on the palmar aspect of the terminal segment of the right middle finger for six years. On April 18th, 1934, the tips of the fingers were tightly bound with two complete turns of one-inch elastoplast, completely and tightly covering the warts. The elastoplast was removed weekly, and the softened, "mushy," epithelial debris was scraped away with a blunt scalpel. The bandaging was continued until July 4th, when the warts had completely disappeared. There was no other concomitant treatment. On February 20th, 1935, the patient wrote saying that her hands were perfect, that she had no further warts, and that she had previously despaired of ever getting rid of her warts because they had been so deeply rooted.

Case II before and after treatment—thirteen weeks' interval.

CASE II

A twin boy, aged 12 years, had extensive and exuberant warts on the back of his right hand and on all four fingers. (His twin brother also had warts, but these had been cured by other means.) The date of the first photograph is April 10th, 1934. Treatment similar to that used in Case I was given. The second photograph (July 3rd, 1934) was taken about three weeks before the cure was quite complete. I have seen the boy lately, and his hand is still free from warts.

CONCLUSIONS

I report these two cases in detail in order to bring to notice a very simple cure for what is often a very intractable complaint—warts. I do not pretend to offer any explanation as to why cure results—perhaps some dermatologist will oblige. (Lessened blood supply and exclusion of air are possible factors.) Elastoplast, consisting as it does of zinc oxide spread upon an emulsion of gelatin and rubber and incorporated with a cotton elastic bandage, has many uses, and is rather "extraordinary stuff"; for on the base of a varicose ulcer (where there is no epithelium) it rapidly causes normal epithelium to grow, causing the ulcer to heal—as I know in the case of the many hundreds of varicose ulcers that I have treated. Yet, in the case of warts, it seems to destroy abnormal epithelium, substituting for it normal skin.

Perhaps there are other "heaped-up" skin conditions (either chronic inflammatory or simple new growth) which would be common in dermatological practice, and which might also be cured by the continuous binding up with elastoplast.

STUART MCAUSLAND, B.A.Lond., M.D.,
Honorary Physician to Liverpool Hahnemann Hospital.

Reviews

SIR ARTHUR NEWSHOLME'S RECOLLECTIONS

The value of a record of public health movements by one who has taken an active part in them, and who can describe not only his own work and that of his contemporaries, but also the nature of the influence which the work of their predecessors had upon their activities, is very finely exemplified by the first of two volumes under the title *Fifty Years in Public Health*[1] which Sir ARTHUR NEWSHOLME has just written. It is to be hoped that he will be able to write his second volume, and that it may be published before very long. The author's subtitle is "A Personal Record, with Comments," and the book is an unusual form of autobiography. This first volume covers the period from the author's birth in 1857 to the year 1908, with a few excursions into later years to round off some particular matter. But after the first two chapters the narrative is limited entirely to occurrences bearing upon public health, and is not chronologically straightforward, but divided into sections dealing with some eminent pioneers in State medicine—John Simon, Edwin Chadwick, and others—and with separate aspects of public health work—the control of infectious diseases, vital statistics, the safeguarding of health in infancy and childhood. The whole makes up a very interesting and informative volume, containing much of value which could not have been recorded quite so intimately or so well by anyone else.

Not least interesting are Sir Arthur Newsholme's recollections of his earlier years, for he was born at Haworth, and his father was a churchwarden to the Rev. Patrick Brontë. His reminiscences of his years as a student at St. Thomas's Hospital, where he was specially impressed by the teaching of John Syer Bristowe and Charles Murchison, and some of his experiences as a general practitioner in Clapham before he became medical officer of health to Brighton, are of more than personal interest; but the greater part of the volume is naturally concerned with the rapidly developing public health problems and services as seen by him during his twenty years' tenure of that office. These are narrated and discussed in considerable detail, and are, in fact, as the author hopes in his preface they may be, "valuable as a contribution to the history of public health and preventive medicine during a period in which phenomenal progress has been made."

Sir Arthur Newsholme's own contributions to this progress are well known. Due record of these is naturally to be found in his book, and there are a number of quotations from his earlier reports and other writings which show that in several matters he indicated truths which were not generally recognized till later. There are other statements which testify that he still adheres to some views in which he has always differed from the great majority of his professional colleagues. He holds that practitioners should not receive any fee for the notifications they are required to make for State purposes—such as those of births and of infectious diseases—and that insurance practitioners, at least, should be obliged to make a weekly return of all illnesses attended by them, without further remuneration. His unduly pessimistic views, fortunately not justified by actual experience, on national health insurance practice will no doubt find fuller expression in the succeeding volume, but in this he rightly, and very strongly, condemns the failure by the Ministry of Health to make use of the valuable material that should be available through the surrendered record cards of insured persons. He repudiates with equal firmness the doctrine that inherent physical or mental weakness is in any sense proportionate to the grading of the social classes, and the recent propaganda for the restriction of births at a time when "we are menaced with under-population instead of the over-population which some still regard as a national danger." The British Medical Association is given credit for "forcing the hands of the Board of Education" with reference to the school medical service; and the author's influence, in spite of some powerful voices within the Association itself, in securing the intimate connexion of that service with the public health departments of local authorities through their medical officers of health is deserving of grateful acknowledgement.

These notes on some matters of detail will serve to indicate the variety of interest which this book affords. It would be well to correct the misprint on page 401, where 1880 instead of 1870 is given as the date at which elementary education became compulsory.

[1] *Fifty Years in Public Health. A Personal Narrative, with Comments.* By Sir Arthur Newsholme, K.C.B., M.D., F.R.C.P. London: George Allen and Unwin Ltd. 1935. (Pp. 416; illustrated. 15s. net.)

DERMATOLOGICAL EPISTLES

During the great war Dr. CLÉMENT SIMON made the acquaintance of a young and intelligent medical man who acted as his assistant and profited by his teaching. The young man, deprived of Dr. Simon's counsel by the exigencies of peace, exacted from his mentor a promise to write to him regularly upon subjects of dermatological interest. This promise was faithfully kept, and some five years ago a number of these letters were published in a single volume, and thus deservedly reached a wider public than that for which they were originally intended. In point of fact their reception was so flattering that their author has been tempted once more to publish a collection similar in character to the former, and we are consequently now able to welcome the second volume[2] of the Epistles of St. Simon. Those who enjoyed the first series will also appreciate the second. They are the product of a scientifically trained mind of wide interests, tempered by a long and thoughtful clinical experience, which has made the author sympathetic to all human suffering and tolerant of all human failings. He has become the embodiment of the dermatological philosopher. In its technical aspect Dr. Simon's conception of dermatology is best illustrated in a letter entitled "Les Médications Générales en Dermatologie," a phrase a little difficult to translate accurately into English, but which perhaps may be rendered as the principles of the treatment of skin diseases, which illustrates how superior French is to English in neatness and precision of expression. This letter is far too long to summarize here, but it provides a rational basis for dermatological therapeutics, and shows that all the methods employed in the treatment of skin disease are either prophylactic, anti-infective for the purpose of desensitization, or intended to regulate and restore the functions of the endocrine glands. Most of the other letters are concerned with practical questions aptly illustrated by examples from the author's own casebooks. Some discuss unsolved problems of dermatology—for example, one which asks whether the *Treponema pallida* is the real agent which transmits syphilis or whether infection is not really carried out by some other form of the causal organism as yet unknown; and the last letter in a series from the pen of one of our senior colleagues is not inappropriately devoted to a contrast between the famous *De Senectute* of Cicero and the much less well known *L'Automne de la Vie* written by

[2] *Nouvelles Lettres à un Médecin praticien sur la Dermatologie et la Vénéréologie.* By Dr. Clément Simon. Paris: Masson et Cie. 1935. (Pp. 226. 35 fr.)

our French contemporary Pauchet. Cicero's essay is almost an encouragement to grow old, but Pauchet's advice will be, he considers, the most valuable to those who have already passed the meridian. The letters form a charming volume, to be read with pleasure by all medical men who enjoy good writing and clear thinking.

DIABETES AND OBESITY

Dr. GARFIELD DUNCAN of the Pennsylvania Hospital has written a short book dealing with both diabetes and obesity.[3] This combination has much to recommend it, for, although the aetiology and pathology have little in common, diet is the keystone to treatment in both conditions, and the food tables in the book serve a double purpose. Most aspects of diabetes are dealt with, but some in insufficient detail to be of practical importance. For instance, the section about "Diabetes in Children" consists of only two pages of generalities and one detailed case record. Forty pages are devoted to obesity, and diets for the treatment of exogenous obesity are laid down. Endogenous types are sketchily described (admittedly it is a difficult subject), and we regret to see posterior lobe extract (pituitrin) advocated as a treatment. Surely there is no sound basis for this.

Dr. J. J. CONYBEARE has also written a short manual on diabetes,[4] which covers the ground admirably from diagnosis to treatment of complications. Hypoglycaemia is particularly well described, and indeed in every section the author has condensed much detail of practical importance and yet maintained a clear and pleasant style. The last part of the book is an appendix (twenty-five pages) containing information and instruction for *Self-Care for the Diabetic*,[5] which can be purchased separately.

THE FRUSTRATION OF SCIENCE

The Frustration of Science[6] is a good title, and might have been used appropriately for a useful volume which would have set out in a temperate, logical, and unbiased fashion the need for a greater encouragement of research, for a wider and more early application of the results of research to practical life, and for the avoidance of a prostitution of these results to destruction or other undesirable ends. The book actually published under this title is disappointing. It has all the appearance of being deliberately provocative and tendentious. It consists of six chapters dealing with the relation of science to agriculture, aviation, industry, medicine, sterility, and bacterial warfare respectively, with a foreword by Professor Frederick Soddy and a final chapter by Professor P. M. S. Blackett.

The names of the authors are, in the scientific world, imposing and attractive, but if science is regarded, as it should be, as the single-minded pursuit of truth, surely some of them may have regrets for the unscientific atmosphere into which they have stumbled. Each of them introduces, almost by violence, sentences into his contribution which imply a combined intention to suggest that the one, or the main, enemy of science and cause of its frustration is "capitalism," or "the present economic system," or "the existing social organization." In fact, their articles demonstrate nothing of the kind, nor is there even (except perhaps in the concluding chapter) any real attempt at such a demonstration. What the writers do show, more or less vividly, is that there are imperfections in the applications of science to practical life, and that scientific discoveries may be helped or hindered, well used or ill used. They show, too, that in many respects the full advantages of the application of science to agriculture, aviation, and industry are vitiated by the present ultra-nationalistic tendency, and that modern warfare is antagonistic to human progress.

In the less instructed reader this book may produce uneasiness, in the more instructed reader irritation · but to neither, we venture to assert, will it carry conviction. The irritation of the instructed will be due to a continued puzzlement as to what conclusions most of the writers intend to be drawn from their statements, and to the absolutely contrary conclusions which are apparently drawn. They will ask if Professor Soddy is either clear or fair when he states that "professional bodies representing science and medicine have hardly emerged from the easy attitude that it is no concern of theirs what they are hired out for," or when he speaks of "the anomalous position of the conscientious medical practitioner," or when he says of science that "its abundance has but enthroned the wastrel." What exactly does Mr. Bernal mean when he advocates "rational instead of traditional machinery," and says "If machines had been designed from the point of view of the worker rather than that of minimum cost of operation they would be as interesting to work as farming or hunting"? Is it reasonable for him to deprecate the telegraph as having been "used far more for conveying gambling instructions between stockbrokers and sporting and crime news for newspapers than for any useful purpose,"[7] yet to commend the telephone as "altering human relationships in large cities"? On what rational ground can more than one of these writers, while proclaiming that scientists are in many respects uneducated and are ignorant of sociology and politics, demand that scientists should come forth and supplant economists and statesman in the government of the community? Is there any justification whatever for Professor Mottram's picture of medical education and of the work of the general medical practitioner?

From these strictures, or most of them, it is fair to except the chapter by Dr. Enid Charles, on "The Invention of Sterility." We need not enlarge here upon this chapter, nor upon Professor Mottram's. Against the latter, when it was given as a broadcast talk, a reasoned protest was made in our issue of September 8th, 1934 (p. 475). The former is essentially identical with some part of Dr. Charles's book *The Twilight of Parenthood*, which was commended to the notice of our readers on August 18th, 1934 (p. 310).

CORRELATION OF STRUCTURE AND FUNCTION

Professor E. V. COWDRY's *Textbook of Histology*[7] is a fine work, but the title is likely to mislead those who understand the term "histology" in the commonly accepted sense of the descriptive anatomy of the tissues and the microscopic structure of organs. The subtitle of the book, *Functional Significance of Cells and Intercellular Substances*, gives a much better idea of the scope of the work, and if the student already possesses some knowledge of histology in the ordinary sense of the word he will find the author's book of great interest and valuable as enabling him to appreciate the functions of the structures he has been studying. The principal aim of the book is to

[3] *Diabetes Mellitus and Obesity*. By Garfield G. Duncan, M.D., C.M. With an Introduction by Thomas McCrae, M.D. London: H. Kimpton. 1935. (Pp. 215, illustrated. 12s. 6d. net.)

[4] *Manual of Diabetes*. By J. J. Conybeare, *M.C.*, M.D., F.R.C.P. London: H. Milford, Oxford University Press. 1935. (Pp. 123; illustrated. 6s. net.)

[5] *Self-Care for the Diabetic*. By J. J. Conybeare. Third edition. H. Milford. (Pp. 25. 1s. net.)

[6] *The Frustration of Science*. By Sir Daniel Hall, F.R.S., J. G. Crowther, J. D. Bernal, Professor V. H. Mottram, Dr. Enid Charles, Dr. P. A. Gorer, and Professor P. M. S. Blackett, F.R.S. Foreword by Professor Frederick Soddy, F.R.S. London: George Allen and Unwin, Ltd. 1935. (Pp. 144. 3s. 6d. net.)

[7] *A Textbook of Histology. Functional Significance of Cells and Intercellular Substances*. By E. V. Cowdry. London: H. Kimpton. 1934. (Pp. 503; 242 figures. 25s. net.)

relate structure and function in the whole body. The central theme is the blood vascular system, the main integrator of the organism, in connexion with which are described, in addition to the blood itself, the adsorptive drainage into it from the lymphatics and spleen ; the chemical integration by endocrine products in the blood stream ; the intake of water, nutriment, and accessory factors ; oxygen consumption and carbonic acid elimination ; and the regulation of the constitution of the blood and removal of waste. After the blood stream, the nervous system, as the next most important means of integration, is described, with the nerve cell as the vital unit and the reflex arc as the integration unit. The final divisions of the subject deal with architectural support, movement, and the perpetuation of the race. The whole scheme of the work is excellently conceived and carried out, and the cytology is of especial value.

Notes on Books

The collected reprints, more than thirty-five in number, of *Researches Published from the Wards and Laboratories of the London Hospital during 1934*[8] form an impressive monument of the original work carried out in the largest of the teaching hospitals in London. It is clear that Professor Turnbull and Professor Ellis have stimulated work among both laboratory and clinical workers. Thus Dr. Dorothy Russell has a hand in six papers, and Dr. F. B. Byrom contributes four papers ; in that on the nature of myxoedema the last-named worker, a Beit Memorial Research Fellow, finds evidence that Ord in 1877 was correct in regarding myxoedema as an accumulation of muco-protein in the tissues, and that it is not, as was more recently stated, simply a quantitative expression of lowered basal metabolism. Two papers by Dr. Lumsden and his co-workers set out further evidence of the presence of specific anti-cancer bodies in the serum of animals immune to Jensen's rat sarcoma. The circulatory system is considered in a number of papers: thus Professor Turnbull and Dr. Janet Vaughan collaborate over anaemia, Drs. John Parkinson and Hoyle over thyrotoxic hypertension, Drs. W. Evans and Hoyle over angina pectoris, and Mr. Souttar writes on aneurysm of the innominate artery. Professor Ellis's paper on increased carbohydrate tolerance in diabetes mellitus following the hourly administration of glucose and insulin without other food for some days raises several important points, particularly the explanation of this reaction and its further utilization in treatment.

A summary of plant therapy,[9] by H. LECLERC (third edition) gives a short account of the therapeutic actions produced by plants which are French either naturally or by acclimatization. The list includes a considerable proportion of the pharmacopoeia, and also a large number of plants which have never attained official recognition. In addition to a somewhat sketchy account of the recognized pharmacological actions of these herbs, the volume contains much interesting folk-lore.

The veteran physicist Sir CHARLES BOYS has not forgotten the difficulties those who must use mathematical tools sometimes find in understanding mathematical methods. In a brochure entitled *The Natural Logarithm*[10] he shows how the conception of a logarithm may be based upon purely geometrical considerations, and how even the arithmetical values may be derived to a high degree of approximation by purely geometrical methods. Some of our readers will find at any rate the first half of the booklet interesting and not too difficult reading.

[8] *Researches Published from the Wards and Laboratories of the London Hospital during 1934*. Selected and issued by the Publications Committee. London: H. K. Lewis and Co. 1935. (7s. 6d.)

[9] *Précis de Phytothérapie*. By Henri Leclerc. Third edition. Paris: Masson et Cie. 1935. (Pp. 308. 32 fr.)

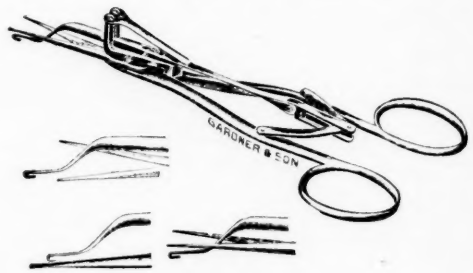
[10] *The Natural Logarithm*. By Sir Charles Vernon Boys, A.R.S.M., LL.D., F.R.S. London: Wightman and Co. Ltd. 1935. (Pp. 51. 2s., postage 3d.)

Preparations and Appliances

IRIDECTOMY SCISSORS

Dr. WM. Y. TURNER (Livingstonia Mission, Nyasaland) writes: The accompanying illustrations will show clearly the principles and the action of the iridectomy scissors which J. Gardner and Son (of 32, Forrest Road, Edinburgh) have kindly made for me.

The instrument is essentially composed of an iris hook, mounted on a pair of iris scissors and operating on a combination of the principles of the grafting scissors and of StClair Thomson's tonsillotome. When the blades of the scissors are separated the iris hook is thrust downward and forward between and below the blades of the scissors: on closing the blades again the iris hook is first drawn backwards and then lifted above the level of the scissor blades, which close below it at a convenient level to make a neat coloboma. For example, in making the preliminary iridectomy for a cataract extraction, a firm grip of the conjunctiva having been taken with the fixation forceps and the linear incision completed,



the iridectomy scissors are taken up with the thumb and ring finger in the handles, the index finger placed on top of the instrument, which is steadied against the side of the middle finger ; the tip of the middle finger is rested on the eyebrow, and, the blades of the scissors being widely opened, the hook is entered into the wound and advanced until the edge of the iris engages. The scissors are then closed, when the hook is automatically withdrawn and the iridectomy completed by the closing of the scissor blades. The lens can then be extracted in the usual way. Thus the whole operation is completed by the operator himself, without the intervention of an assistant and without letting go the fixation forceps or moving the fixing hand in any way. Further, the hook avoids the pinching of the iris in forceps, which so often causes spasm or squeezing of the eye. One word of warning is necessary. The instrument must not be used through a narrow incision for a simple iridectomy, for there is not enough free "give" of the corneal edge to allow of the hook lifting for withdrawal; it is apt to catch on the upper edge of the wound, and cannot be turned over to avoid this.

The instrument may be made with straight blades or curved, which would be more suitable for deep-set eyes.

REVERSE-ROLLED ELASTOPLAST BANDAGE

Dr. JOHN T. INGRAM (Leeds) writes: The principle of the elastoplast bandage is ideal in the treatment of gravitational troubles, but it is often discarded if eczema is present or develops after its use. Such eczema is generally due to the mechanical effect of the adhesive plaster, and not to any chemical effect. It can be overcome by the use of side-pieces of elastoplast under the bandage or by its application over a silk stocking, over Unna's paste, or over a viscopaste bandage. I have recently found effective the simple expedient of applying the elastoplast bandage reversed, so that the sticky side is away from the leg. While it forms an equally elastic, firm, contracting support to the leg, by reason of the firm adhesion of the layers of bandage one to the other, it avoids the risk of causing or aggravating eczema. The bandage is secured to the leg at each end by a small length of bandage used in the ordinary fashion. The stickiness of the bandage is removed by rubbing with cotton-wool.

To facilitate ease of application, and to prevent the bandage sticking to the hand that applies it, Messrs. Smith and Nephew of Hull have recently rolled bandages for me in the reverse direction from the normal.

British Medical Journal

SATURDAY, JUNE 1st, 1935

THE ASSOCIATION AND PUBLIC HEALTH MEDICAL OFFICERS

It is now more than twelve years since the British Medical Association and the Society of Medical Officers of Health, after full consideration by a joint committee, arrived at a complete agreement on questions of general policy and of medico-political procedure, and so modified their constitutions as to bring about more effective consultation and collaboration, and, indeed, to establish organic links between the two bodies through mutual representation. The intention was, as stated to and by the Representative Body, to "bring about close and cordial relations between the Association and the Society with great advantage to the interests both of private practitioners and of medical officials." This end has, in fact, been accomplished, and the united efforts of the two bodies, with the Association as the ultimate executive in medico-political matters, have resulted in great advances in the status and position of public health officers and in enhanced influence with governmental authorities on all appropriate questions.

The number of medical officers in the public health service who belong to the British Medical Association has always been proportionally large, and has grown of late years. Since the agreement above referred to, however, there have been a considerable number of entrants to the public health medical service in one or other of its spheres, and many of these are almost necessarily unaware of the condition of things before the agreement was arrived at, of the nature of the agreement itself, or of the great benefits that have consequently accrued to the service of which they have become members. There was an understanding that the Council of the Society would use its best endeavours to secure that every member of the Society should be also a member of the Association, and that the Association would welcome the strengthening of the Society by increased recruitment into its ranks. This understanding has been loyally adhered to, but at the present moment it seems desirable to make renewed efforts in the direction indicated, and to remind public health medical officers of all grades of service and in all branches of the work of the great value to them personally of what has been already accomplished and of the influence which is being exercised constantly and steadily on their behalf.

When the agreement was entered into there was much evidence that the salaries of members of the public health service were inadequate, sometimes grossly inadequate, and that their status was in some jeopardy. Status and salary no doubt react upon each other, and the position at one time was such that it became plain that the service was not getting as many recruits as it needed from among those practitioners who were fully competent to carry out the duties required. Strong steps were called for, and were taken, with the willing encouragement of the Ministry of Health, to remedy this state of affairs in the interest of the public health as well as in that of the officers themselves. The councils of many of the local authorities were rather more tardy in realizing the position, and some of them, even now, seem not to be fully awake to the consequences of not maintaining the highest standard among their medical officers. The duties of those officers, though increasing almost yearly through fresh legislative Acts, were more strictly and properly defined; extraneous duties which had in some instances come to be imposed upon them without any corresponding acknowledgement were removed; their status, both absolutely and in relation to other principal officers of local authorities, was enhanced or more definitely recognized; and great and sustained efforts were made to secure more appropriate salaries and to establish a scale of remuneration and conditions of service of general application throughout the country. At that time there was no such scale in existence, each authority acting in this matter as an independent, uncontrolled, and unrelated unit. It is now well known that a scale of this kind has been embodied in what is called the "Askwith Memorandum." This is acknowledged to be to the advantage of all concerned, authorities and profession alike. Though some of its details are not exactly those which the Association wished, it has been accepted by the Association, recommended by the Ministry of Health and by most of the associations of local government authorities as reasonable, and accepted also by most of the councils of those authorities themselves. The Association, in loyalty to those authorities who have adopted the Memorandum, is using such powers as it has to induce the remaining authorities to apply the Memorandum in their areas; and this effort, though requiring constant vigilance and some pressure, is meeting with abundant success. In these ways public health administration has been saved from something approaching disaster; and for no branch of the profession has more been done by the Association of late years than for public health officers.

The Association and the Society have no doubt whatever of the continued loyal assistance of all those officers in the work they are doing; but it is desirable that not only that work and its effects, but also the position and character of the Association in such matters, should be understood. Two points particularly may be made clear. The widely representative character of the Association, the great care entailed by its constitution in collecting and formulating opinion before any policy can be declared to be that of the Association, the history of the Association in regard to the fulfilment of promises and the implementing of undertakings, have combined to secure for it full recognition as the only professional organization with which the

Government conducts negotiations and comes to agreements on matters that require such proceedings in relation to the profession Further, the Association has always been independent of party political bias or affiliations. It contains members of each of the political parties and of none, and deals impartially with all appropriate questions and with Governments, local authorities, and social and political organizations of every variety. It is only by virtue of this comprehensive and unsectarian membership and by reasonable presentation of its suggestions, and an established reputation for straightforward dealing, that influence with those in positions of authority in this country can be acquired or maintained. These things are of paramount importance in matters relating to the public health service and to medical practitioners engaged therein.

THE NATURE OF VIRUSES

The Huxley Memorial Lecture, delivered this year by Sir Henry Dale, was devoted to that absorbing question the nature of viruses.[1] Though not himself engaged in the investigation of viruses, Sir Henry, as Director of the National Institute for Medical Research, has had ample opportunity of acquainting himself with what is known concerning these agents of disease. Perhaps, indeed, his position of "interested observer" has been an advantage, for it has enabled him to view the problem of the nature of viruses dispassionately, and so arrive at a more correct evaluation of the facts. At any rate, all who heard or have read this lecture—and those concerned with biological problems should not fail to do the latter—must have been impressed by the masterly presentation and summing up of the evidence bearing on this question.

In his presidential address to the British Association in 1870, Huxley gave his reasons for thinking that abiogenesis played no part in the reproduction of even the simplest living things; viruses—that is, filterable viruses—were then unknown. But although he pronounced thus categorically against the conception of abiogenesis, Huxley turned a more lenient eye on the possibility of heterogenesis taking place. And, as Sir Henry Dale points out, this question of heterogenesis is with us to-day, for some authorities hesitate to accept viruses as living, self-producing micro-organisms, and ascribe their origin to a perversion of living cells, a form of heterogenesis. In the past the whole problem of the nature of viruses has been wrapped in mystery. This is not difficult to understand, since the characteristics which distinguished this group of agents—invisibility with the microscope, filterability, and an inability to cultivate them on artificial media—were all negative ones. But the work of the last few years has gone a long way to dissipate this atmosphere of mystery. By means of the centrifuge and ultra-filters it has been possible to measure the different viruses and to show that each species maintains a constant size of particle. The centrifuge, again, has made it possible to obtain some viruses in a state of relative purity, and to identify virus with stainable particles. It is also known that several of the larger viruses can be seen with the microscope, and Barnard's work on ultra-violet dark-ground microscopy has enabled him to obtain photographs of viruses which show them to be organized structures resembling bacteria. Further, the application of immunological methods has taught us that the different viruses have a specific antigenic composition which they retain irrespective of their environment. All this suggests most strongly that viruses are self-reproducing micro-organisms; it is only the inability to grow them apart from living cells and the very small size of some members of the group which leave any room for doubt. Even the inability to grow viruses in a lifeless medium need not prove an insuperable difficulty in this respect, as recent work by Bland has shown. He has cultivated psittacosis virus in chick-embryo tissue, and watched the development of the living virus inside the cell from the early stages onwards. There can be little doubt now about the living, independent nature of this virus. Concerning the difficulty of accepting the very smallest viruses, such as the virus of foot-and-mouth disease, as micro-organisms, Sir Henry Dale makes some very pertinent remarks. There is, he says, little difficulty in accepting the larger viruses as micro-organisms, but these differ only in size from the small ones. None of the available evidence warrants the division of the virus group: all of them, even the smallest, seem to be of the same nature.

We must either accept all members of the group as being micro-organisms multiplying homogenetically, or postulate that they are all the outcome of heterogenesis. Sir Henry inclines decidedly to the former view, and in doing so he will find himself in harmony with the great majority of virus workers, at any rate in this country. Towards the end of his lecture he suggests that the free virus particles that we measure may not give us a true picture of the size of viruses actively multiplying inside cells, "where as yet we can neither see nor measure them." He thinks that the extracellular virus particle may possibly be a fragment of a virus unit, capable under favourable conditions of regenerating the vegetative form. This conception he put forward in the nature of pure speculation, but evidence is available suggesting that something of the kind does occur. Psittacosis virus has been seen growing inside cells, and though no accurate measurements have been made, there is no doubt that, commonly at any rate, the early vegetative forms are considerably larger than the extracellular form or elementary body. There is more than a suggestion, too, that the virus of inclusion blennorrhoea behaves similarly. Whether this is a phenomenon common to the group remains to be seen.

[1] *Huxley Memorial Lecture, 1935. Viruses and Heterogenesis. An Old Problem in a New Form.* By Sir Henry H. Dale, M.D., F.R.C.P., F.R.S. Macmillan and Co., Ltd. (1s.)

ASTHMA RESEARCH

Whenever the lay person hears of the work of the Asthma Research Council he immediately inquires, "But have they found a cure for asthma yet?" and refers to the use of insulin in diabetes or liver in pernicious anaemia. The answer to this query is that a "cure" for asthma has been known ever since Takamine isolated adrenaline in 1901, for adrenaline injected judiciously will stop practically all asthmatic attacks. But just as the majority of diabetics remain diabetic however long they receive insulin injections, so asthmatics will still tend to get their attacks anew when the effect of their adrenaline injection has worn off. The aim of the Council has been to elucidate the factors concerned in rendering a person liable to asthma, to determine the cause of onset of each individual attack, and to seek measures that would prevent or abolish the asthmatic tendency rather than relieve the actual attack. The Asthma Research Council owes its institution and funds largely to the munificence of sufferers, aided by generous donations from the Sir Halley Stewart Trust. The results of the first seven years' work have been very ably and impartially reviewed by Sir Humphry Rolleston, and copies of his *Report on the Work of the Asthma Research Council from 1927-1934* can be obtained from the Secretary of the Council, c/o King's College, Strand, W.C.2. How well the original programme of research has been carried out will be realized from a perusal of its pages. That the subject has been attacked from widely different aspects is very evident. The consensus of opinion is that asthma is largely a manifestation of hypersensitiveness or allergy to articles of diet or environment, though individual attacks may be brought about later by climatic changes, infections, mental upsets, dietary indiscretions, and a host of other heterogeneous factors which lead to changes in the physical and chemical condition of the blood and urine. It is the correlation of all these so-called "allergic" and "non-allergic" factors that provides the difficulty in determining one set cure for all asthmatics. The important part played by heredity and environment has been established quite firmly. The aetiological association of asthma with such other conditions as rhinorrhoea, hay fever, infantile eczema, and certain cases of migraine, urticaria, and angioneurotic oedema has led to their being grouped together under the general term "allergic diseases"; and biochemical, physiological, and haematological studies and skin tests have confirmed this resemblance. But, as Sir Humphry remarks, "with so many facets the solution of what may be called the problem of the asthmas and allied diseases cannot be expected to be rapid, but much has been accomplished in the last few years." Such a statement is borne out by a perusal of the six pages of titles of publications written by research workers of the Council and members of the honorary medical advisory committee during the seven years. Sir Humphry Rolleston's report on the work of the Asthma Research Council shows "how well organized its policy of a wide and broad-minded plan of research has been, its debt to the generous benefactions of the Sir Halley Stewart Trust, and the success attending their selection of able and energetic scientific workers." All who read the report must agree that a worthy and composite effort has been made to fathom the asthmas, and that the Council's activities deserve further financial support.

CHEMICAL WARFARE

The fact that the greater part of two recent numbers of the *Paris Médical*[1] is devoted to gas warfare indicates only too clearly how this matter is regarded on the Continent. The articles in question are of an exceptionally high quality, and together represent a collection of facts that it would be difficult to find elsewhere. Professors Cordier and Magne provide a full account of the general toxicology and pathology of the chief poisonous gases. Much of this article is based on experimental work carried out by the authors. M. le Médecin-Commandant Moynier reviews the classes of poison gas, the clinical symptoms produced, and therapeutic procedures. An article by M. Renaut describes the methods of individual protection, and in particular the properties of gas masks; while Professor Dubrisay discusses the possible methods for the protection of civil populations against gas attacks. The four articles, therefore, cover both the effects of gas attacks on cities and the possible means of defence. The gases referred to are naturally those whose properties are public knowledge—such as mustard gas and Lewisite—but it is hinted that these do not represent the limit of danger. As the articles are summaries of existing knowledge, it is not possible to do more than mention a few salient features. With regard to the treatment of cases of poisoning with asphyxiating gas it is pointed out that carbon dioxide is useless as a respiratory stimulant and that artificial respiration is more likely to do harm than good. The treatment recommended is rest, bleeding, and oxygen therapy. Cases of poisoning with mustard gas resemble infectious diseases in that one of the most urgent problems is to prevent contact with others, and hence arrangements for de-gassing patients and clothing are of outstanding importance. Much of the information in the articles on treatment will be familiar to those who had experience of treatment of gas casualties in the war, but it is important to remember that this knowledge is no longer so widespread as it was seventeen years ago, and that the handling of such casualties requires a well-trained personnel. The protection of the individual from gas attack is chiefly the problem of the design of a satisfactory gas mask. The main difficulty is to design a mask that will arrest toxic dusts without causing too great a resistance to the inspiration of air. The collective protection of populations depends on the provision of gas-proof shelters, and a few simple calculations indicate some of the problems. The air in a room 12 by 16 by 10 feet is adequate for fifteen persons for three hours; hence it is essential to provide means for renewing the atmosphere. The shelters must also be strong enough to resist bomb splinters. Finally, it is essential to have at hand methods of cleansing the shelter from gas introduced by persons entering. These notes reveal the complexity of some of the problems considered in the articles under notice.

[1] *Paris Méd.*, March 30th and April 13th, 1935.

THE MEDICAL VOCABULARY

We have received a copy of a paper read at a congress of medical journalists by Dr. João Coelho which stirs our blood.[1] Dr. Coelho exhorts his Latin colleagues to safeguard the purity of the Latin languages, for he is saddened by the grammatical and etymological improprieties of medical literature. Dr. Coelho in addressing us speaks to a converted audience. Editorially we have done what we could to defend the wells of English pure and undefiled, and look back with regret to the days when in our columns the late Charles Mercier fought a gallant and hopeless fight against "marked" tendencies in medical literature. Dr. Coelho, writing in French, which is not his mother tongue, does not enter into questions of style or grammar, so that most of his examples of things which ought not to be done are etymological hybrids such as *urinothérapie* or adjectival derivatives such as *néoplasique*, which by rule should be *néoplastique*. But these linguistic crimes are not so exciting as the crimes which may not be crimes at all. Stimulated by Dr. Coelho's zeal for purity of language, we decided to pillory some offender who could not be identified and, with that object in view, took down a bound volume of the *British Medical Journal*, opened it at random, and copied out the first sentence which seemed to need consideration. It happened to be this: "Until within the last two years all cases which I have treated have been beyond operation." The purist will at once object that one cannot treat cases but only patients. Is he right? We consulted the Oxford Dictionary, and definition 8. Med. (*a*) is, "The condition of disease in a person"; and (*b*) is, "An instance of disease, or other condition, requiring medical treatment, 'a record of the progress of disease in an individual.'" Neither (*a*) nor (*b*) will fit the sentence, and one illustrative quotation of 1864 seemed decisive. "Nothing else could teach him that patients are not cases but persons." But the Oxford Dictionary regards our own columns as authoritative, and cites from the *B.M.J.* of June 18th, 1881, "About two hundred cases of ulcerated legs pass through my wards annually." Therefore, it would seem, on case law, that we have no right to pillory the offender at all. And yet, there is something to be said for the purist. It does seem rather a pity to overwork an abstract noun when a wholly adequate concrete noun is unemployed. The question really is whether case is being used merely as a synonym for patient or whether some nuance of difference is implied. Had the sentence run: "Until within the last two years all the patients I have treated were beyond operation," would it have conveyed a different meaning? We think not. But the real—dare we say?—case for case is brevity. "I saw to-day an inoperable case of carcinoma," eight words; "I saw to-day a patient suffering from inoperable carcinoma," nine words. The substitution of "patients suffering from" for "cases of" throughout a manuscript makes the most conscientious sub-editor weary of well-doing. Sub-editors have long ago given up querying "marked importance" or asking who marked it. The line between pedantic affectation and correctness is hard to draw.

[1] La langue médicale et la presse. *Acta Medica Latina*, September-October, 1934.

ACUTE QUININE POISONING

Dr. Chaniotis[1] of Athens reports the somewhat surprising fact that quinine is often used in Greece for purposes of suicide. This fact enables him to give interesting information about the effects of massive doses of this important drug. Most of the subjects have been in the habit of taking quinine regularly. Doses of about 5 grams usually produce only minor toxic effects, such as digestive disturbance and buzzing in the ears, and recovery takes place in a few hours. Doses of 10 grams may not give rise to serious intoxication. Doses of from 10 to 15 grams usually produce obvious symptoms of intoxication—namely, severe abdominal pain, intense singing in the ears, deafness, and impairment of vision. Sometimes there is delirium with hallucinations; reflex activity is exaggerated, and clonic or tonic convulsions may occur. The stage of excitation is followed by a semi-comatose condition in which the patient complains of intense headache. Doses of 20 grams and more have often proved fatal. The symptoms described above are present in an exaggerated form, and there is pronounced cardiac depression with bradycardia. The fate of the patient in such cases depends on the speed with which the stomach is emptied. The special interest of this report is the evidence it provides that toxic doses of quinine can act as a temporary excitant upon the central nervous system, since the production of this effect by quinine has been a matter of doubt. The author reports also the successful treatment of quinine blindness by acetylcholine and atropine. He believes that the quinine blindness is due to spasm of the arteries of the retina and optic nerve.

[1] *Presse Méd.*, March 23rd, 1935, p. 479.

SNAKE VENOM AND PURPURA

The introduction of splenectomy as the ideal method of treatment of those forms of purpura associated with a large reduction in the blood platelets represented a valuable therapeutic advance. Numerous observers have, however, in recent years commented upon certain failures associated with this operation—sometimes attributed to the presence of small accessory spleens—and in any case the mortality when the operation is performed for the acute forms of thrombocytopenic purpura is not inconsiderable. Hence any other measures that can control the bleeding tendency may offer valuable adjuncts to removal of the spleen. Following an observation by S. M. Peck that small amounts of snake venom intradermally produced a refractory state to experimental purpura in rabbits, and his application of this in the treatment of certain haemorrhagic states, H. M. Greenwald[2] has used the method for three patients with purpura with encouraging results. The venom employed was that of a moccasin snake (the copperhead snake of N. America). The initial dose was 0.1 c.cm. of a 1 in 3,000 solution in physiological saline given intradermally. This was increased gradually to 0.4 c.cm. in two cases, and to 0.6 c.cm. in the third. The injections were made every other day at first and later every third or fourth day. The duration of treatment varied from four weeks to five months. Slight local reactions appeared after

[2] *Amer. Journ. Dis. Child.*, February, 1935, xlix, 347.

some of the latter doses, but these were never painful, and no generalized reaction occurred. The results showed that active bleeding stopped in all three patients after the third or fourth injection. The cardinal signs of thrombocytopenic purpura were present in all three cases at the first examination: absent or greatly diminished platelets, prolonged bleeding time, and a non-retractile clot. After the injections of snake venom the bleeding time became normal in all three cases, being reduced in one instance from fifty minutes to three minutes after fifty days of treatment. The most satisfactory rise in platelet count was achieved in the patient who had no platelets on first coming under observation, and after twenty-six days the platelet count was 200,000 per c.mm. In two patients the capillary resistance test, which was strongly positive at the first examination, became negative after two months. Two of the patients are now attending school and following their ordinary routine, while the third is still in hospital. It is not claimed that these observations, upon so few patients and over such a short period of time, permit of any final conclusions, but the results are certainly suggestive. As regards the mode of action it is probable that snake venom produces its effects by decreasing the permeability of the capillaries rather than by increasing the platelets. It should be emphasized that the use of snake venom is not proposed as a method of cure for the thrombocytopenic purpura, but rather as a measure to control active bleeding.

SIR StCLAIR THOMSON

As briefly announced last week, Sir StClair Thomson was elected an Honorary Fellow of the Royal Society of Medicine by the unanimous vote of the Fellows at a general meeting of the society held on May 21st. This was the only British nomination for the year 1935. It is worthy of note that, with a membership now approaching 5,000, there are only twenty-three British Honorary Fellows of the society. Sir StClair Thomson is the first laryngologist—indeed, we believe the first specialist—on whom this distinction has been conferred. It is also noteworthy that the society has twenty-seven Honorary Foreign Fellows, and of these one is a laryngologist, Professor Chevalier Jackson. No other specialty has had such distinction. Of the five Foreign Fellows nominated for election this year, Professor Edouard Jeanselme of Paris died before receiving the honour.

NAMES OF SURGICAL OPERATIONS

A little handbook with this title aims at providing a standard nomenclature for surgical operations, and is the result of the work of a special committee of the Western Surgical Association of America.[1] A uniform nomenclature is of course essential for the simplification of literature, and without it indexing would be almost impossible. We venture, however, to think that the committee has carried precision a little too far, and that such terms as "hepatocholangio-enterostomy" and "pancreaticocholecystostomy" are not of much use. We imagine that the reaction of the American student to these will be aptly expressed in "Say, Bo, you've said a mouthful!" A purist might like to question the committee on the term "prostatectomy," for does anyone still imagine that a surgeon ever removes a prostate? And yet, after all, it is a convenient word. As we have said, these descriptive terms are valuable from the point of view of constructing an index, but from the point of view of surgery as an art we regard them with misgiving. It will be a melancholy day when such great names as Lisfranc, Chopart, and Farabeuf disappear, and when their amputations are labelled with unintelligible coinings from the Greek.

[1] *Names of Surgical Operations.* Edited by Carl E. Black, M.D. Saint Paul, Minnesota: Bruce Publishing Company. (3 dollars.)

COURSES FOR SHIP SURGEONS

The distinguished signatories to a letter that appeared in the *Times* of May 28th appeal to the shipping companies to facilitate the post-graduate education of ship surgeons. Facilities in both time and money are urgently needed. As was pointed out in an article in the *Journal* of May 11th (p. 981), the ship surgeon has among his many duties to combine the qualities of an orthopaedic and general surgeon with those of a specialist in tropical and other infectious diseases. The British Medical Association, in a full realization of the educational needs of the "G.P. at sea," has actively forwarded a scheme for post-graduate courses for ship surgeons. The co-operation of the Seamen's Hospital Society, of the London School of Hygiene and Tropical Medicine, and of the Dreadnought Hospital, has been secured. All that is now required is to make it possible for the ship surgeon to take advantage of what is open to him. Enlightened self-interest alone should induce to action those shipping companies which are still reluctant to afford time and money for their medical officers to pursue knowledge that can be turned to practical account. Pride in the efficiency of the greatest mercantile marine service in the world may be expected to reinforce the practical suggestion that ship surgeons should periodically be given leave on full pay so that they may keep abreast of modern medical knowledge, and so maintain the tradition of professional competence at sea.

BRITISH POST-GRADUATE MEDICAL SCHOOL

As will be seen from an announcement in our advertising pages this week, the British Post-Graduate Medical School at Hammersmith is now ready to receive students. It is open daily from 10 a.m. to 4 p.m. Students can join at any time for hospital practice and clinical instruction in medicine, surgery, or gynaecology and obstetrics. Medical men are invited to visit the school, and may attend the clinics in progress on the day of their visit. An intensive refresher course designed for general practitioners will be held from June 17th to 29th, and there will be further courses of the same kind in July, September, and November. Early application is recommended, because only a limited number can be admitted to any course. The Department of Pathology will give instruction in morbid histology, bacteriology, biochemistry, or clinical pathology; and opportunities for research workers will also be provided. Applications for a schedule of lectures and demonstrations should be addressed to the Dean (British Post-Graduate Medical School, Ducane Road, London, W.12), who can be interviewed there daily from 2 to 4 p.m.

TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some of the major medical disorders met with in general practice

TREATMENT OF HEART DISEASE IN PREGNANCY

BY

CRIGHTON BRAMWELL, M.A., M.D., F.R.C.P.

From the point of view of treatment it is convenient to classify young women suffering from heart disease in three categories. The first includes the more serious cases. In these pregnancy should be prohibited, or, if it occurs, terminated in its early stages. The second consists of cases in which it is considered advisable to anticipate the normal termination of pregnancy either by Caesarean section or by the induction of premature labour. The third comprises the more trivial cases, in which pregnancy may be allowed to pursue its normal course.

The therapeutic procedures advocated in this paper are based on observations made on a consecutive series of 300 patients found to be suffering from organic heart disease at the ante-natal clinic at St. Mary's Hospital, Manchester,* and kept under observation during the later months of pregnancy, labour, and the puerperium. Fifteen of these patients have been observed during more than one pregnancy, and many of them have been re-examined three, four, or five years after confinement.

Treatment of the First Group

In all patients with auricular fibrillation, as well as in those whose medical history indicates that they have manifested signs of congestive heart failure in the past, pregnancy should be prohibited, or, if present, terminated in the first three months. Unfortunately many of these patients do not come under medical supervision until pregnancy is well advanced. Emptying the uterus is then a more serious matter. In these circumstances the safest course is to wait until the child is viable, and then to terminate pregnancy either by Caesarean section or by the induction of premature labour.

If heart failure has set in and is attributable to auricular fibrillation, confinement to bed and treatment with digitalis are indicated. Usually 20 minims of the tincture or 2 grains of the powdered leaf given three times a day will suffice, but in cases of extreme urgency three doses, each of 1 drachm of the tincture, may be prescribed at intervals of six hours; alternatively, 1/100 grain of strophanthin may be injected intravenously, and repeated in two hours if necessary. When the massive dose method of oral administration is employed it is important to be sure that the patient has not been taking any drug of the digitalis group during the preceding three weeks, and to be on the look out for toxic symptoms such as nausea, vomiting, coupling of the heart beats, and oliguria. Opinion is divided as to the value of digitalis in heart failure with normal rhythm. Although one cannot expect the same dramatic results as in patients with auricular fibrillation, I am convinced that it often does good in small doses—that is, 10 minims of the tincture, 1 grain of the powdered leaf, or 1/600 grain of Nativelle's digitaline twice or three times a day.

* The expenses of this investigation were defrayed in part by a grant from the Medical Research Council.

The other drugs upon which I place most reliance in acute heart failure are cardiazol and coramine. Both these preparations are supplied in ampoules for subcutaneous injection, and one ampoule may be injected every four hours if necessary. Volatile stimulants are also useful in emergency. The old-fashioned ammonia smelling bottle, which was so popular in the days when young women used to swoon on the slightest provocation, is an effective stimulant to the respiratory and vasomotor centres. A more elegant and stronger preparation is the "vaporole" of aromatic ammonia. Brandy should only be administered in emergencies and by a nurse under the doctor's orders. It has a dual action, the immediate effect being due to inhalation of the vapour, and the later effect to absorption from the stomach. It is to the former that it owes its reputation in emergencies. As an alternative we may prescribe a mixture containing 20 minims each of the aromatic spirits of ammonia, spirits of chloroform, and compound tincture of cardamoms. In cases of heart failure with persistent vomiting resulting from the congested condition of the gastric mucous membrane iced champagne may be retained when other fluids are rejected.

Treatment of the Second Group

This group includes patients whose hearts show signs of failing during the later months of pregnancy. The choice between Caesarean section and the induction of premature labour in any particular case is one that should be left to the obstetrician. The cardiologist's duty in such cases is to advise the termination of pregnancy by whichever method the obstetrician considers will cause the patient least distress. I personally have a prejudice in favour of Caesarean section; for, although this operation may be followed by considerable discomfort from abdominal distension, it is surprising how well it is tolerated by most patients with serious heart disease. In my own series of 300 cases, Caesarean section was performed on account of the cardiac condition in twelve patients, and of these only one died, death being due to cerebral embolism ten days after delivery. This patient had auricular fibrillation, and was doing well up to the time the embolism occurred.

Induction is apt to be a tedious process, for the duration of labour is often considerably prolonged. In twenty-seven inductions in this series there were four deaths. One great advantage of both these procedures is that by them one can save the patient from the strain of the last weary month of pregnancy, the time when the heart is most likely to give out.

It cannot be over-emphasized that when, for cardiac reasons, it is decided to terminate the pregnancy artificially, no operative procedure should be undertaken until the heart failure has received adequate treatment. When a patient is admitted to hospital as an urgency in the last two months of pregnacy with serious cardiac failure, the obstetrician is apt to feel that unless immediate steps are taken to terminate the pregnancy a fatal issue may ensue. Experience shows, however, that the risk of delay entailed by devoting a few days to the relief of heart failure by medical means is infinitely less than the risk imposed by operative intervention when the cardiac condition is critical. In such cases it is only by the closest possible co-operation between the cardiologist and the obstetrician that we can hope for the best results.

Treatment of the Third Group

When pregnancy is allowed to pursue its normal course adequate ante-natal supervision is of the very greatest importance. During the later months of pregnancy the patient should report for medical examination once a fortnight ; and the points to which special attention should be paid are the presence of undue dyspnoea or tachycardia, engorgement of the veins in the neck, enlargement of the liver, persistent moist sounds at the bases of the lungs, and oedema. All these signs indicate that the patient is not observing her limitations, and requires more rest. If they are recognized early, the heart usually responds readily to treatment, and a few days in hospital or in bed at home (if the patient's circumstances permit of adequate attention) will generally suffice to restore the normal balance. If, however, these signs are neglected the outlook is much more grave. Nine of our seventeen fatalities were in patients who had never attended the ante-natal clinic, but were admitted to hospital as "urgencies" with acute heart failure.

The clinical significance of oedema is not always easy to assess. In many perfectly healthy women slight oedema of the feet and ankles appears during the later months of pregnancy. It is not necessarily a sign of heart failure, and may, as Osman has pointed out, be due to a disturbance of the calcium balance. Benign oedema of this nature, however, never appears during the first four months of pregnancy. Hence it is only during the later months that this difficulty in diagnosis arises. When oedema is an isolated sign and is not associated with general venous engorgement, it is of much less significance than when it is accompanied by enlargement of the liver and moist sounds at the bases of the lungs.

General Measures

Pregnancy, especially during the later months, imposes a considerable additional burden on the damaged heart. We must accordingly take steps to lighten its work in other ways. The avoidance of physical exertion and a liberal allowance of sleep and rest are essential. A minimum of twelve hours in bed at night, in addition to two hours' rest in the afternoon, is desirable ; while, during the last two months, one whole day in bed each week is a wise precaution. Patients often ask how much they may be allowed to do. In this they must be guided by their symptoms. I regard dyspnoea and undue fatigue as the danger signals which cannot safely be overlooked.

Rest is the most important therapeutic measure in the treatment of heart failure, and by rest I mean not only physical, but mental relaxation. When respiratory and other discomfort interferes with sleep, cerebral depressants are indicated. A mixture containing 10 or 15 grains of ammonium bromide combined with 3 or 4 minims of Fowler's solution, taken three times a day, is often helpful in such cases. A pleasant proprietary preparation is sedobrol, each tablet containing 17½ grains of bromide. One or two tablets dissolved in a breakfast-cupful of boiling water may be administered at night. In cases of more persistent insomnia I find 5 grains of dial, either alone or combined with a similar quantity of aspirin, a safe hypnotic. When actual pain, due to an engorged liver or to other causes, is responsible for the patient's unrest, I have no hesitation in giving morphine hypodermically (1/6 grain to 1/4 grain). When oedema is extensive and persistent, diuretin, 10 to 15 grains three times a day, is a useful remedy, and restriction of salt in the diet should be enforced. In the less acute cases I rely chiefly on the phosphate tonics, of which there are many good proprietary brands (metatone, bynin amara, etc.) on the market. When flatulence is troublesome a couple of sodamint tablets after meals will often bring relief.

Bronchitis

Bronchitis is a common complication which calls for special mention. It throws a great strain on the right heart, and may be responsible for the appearance of heart failure. My own experience is that most of these cases do well, and that when the bronchitis subsides the signs of heart failure disappear. During the acute stage inhalations of tinct. benzoin. co. (1 drachm to the pint) and similar preparations are most soothing. The temperature of the sick-room should be maintained at 65° to 70° F., and the atmosphere kept moist. In a small room the old-fashioned "bronchitis kettle" is hard to beat. When the acute inflammation has subsided a stimulating expectorant mixture, such as the following (or alternatively ammonium carbonate alone, 4 grains in milk), is useful:

℞	Ammon. carb.	gr. ijss
	Vinum ipecac.	♏ v
	Tinct. nuc. vom.	♏ x
	Tinct. camph. co.	♏ x
	Infus. senegae	ad ℥ j

Oxygen therapy is useful in these cases, since it is capable of relieving anoxaemia resulting from deficient oxygenation of the blood in the lungs. The aim of oxygen therapy is to increase the partial pressure of oxygen in the alveolar air. Judged by this, which is the only valid criterion, the method of delivering oxygen from a funnel suspended at a distance of some inches from the patient's face is quite useless. Careful measurements show that, unless the funnel is actually in contact with the face, the old open method is incapable of producing any appreciable rise in the oxygen tension of the alveolar air, and that even so the results compare unfavourably with those obtained by means of a nasal catheter or a closed mask of the type devised during the war by Professor J. S. Haldane for use in cases of gas poisoning. The nasal catheter can be held in position by a small piece of strapping attached to the lip. In order to render it less irritating the oxygen should be bubbled through water. This device also enables the nurse to gauge the amount of oxygen which is being given. It should come through at the rate of about five bubbles per second. A tablespoonful of brandy may be added to the water in the bottle, so that the oxygen acts as a vehicle for carrying over the alcohol vapour.

Summary

Let me summarize my views on this subject by saying that pregnancy should be forbidden in all patients with established auricular fibrillation, and in all those who are known to have suffered from congestive heart failure in the past. When patients in this group are seen in the early months of pregnancy the uterus should be emptied. When they do not come under observation until later they should be kept at rest, and when the heart failure is relieved and the child is viable Caesarean section should be performed. I wish especially to emphasize the fact that pregnancy should never be interfered with until every effort has been made to relieve the heart failure by medical treatment.

In the less severe cases of heart disease pregnancy should be allowed to pursue its normal course under strict medical supervision. In our series all cases in which the heart showed signs of giving way were admitted to hospital, and most of them responded promptly to treatment. I am convinced that many of these patients, had they not been treated in hospital, would have developed congestive heart failure, and some would probably have died.

THE NEW INSTITUTE FOR MEDICAL RESEARCH AT OXFORD

The statute establishing an Institute for Medical Research at Oxford University, recently approved by Congregation, represents the latest development of a scheme which had its origin about five years ago. At that time Lord Nuffield —then Sir William Morris—bought the whole of the Observatory grounds and buildings from the Radcliffe trustees for the sum of £100,000, and handed them over to a body of trustees, called the "Morris Trustees," for the joint benefit of the Radcliffe Infirmary and the University Medical School. It was indicated in the trust deed that the greater part of the land was to be used for the needs of the Infirmary and for such extension of that institution as from time to time might become necessary. On the other hand, the Observatory buildings, the Observer's house, and a considerable area of surrounding land was assigned to the University for the purpose of promoting clinical research. The trustees also had in mind the possibility in the future of a ward devoted to clinical research, which could be brought under the general administration of the Radcliffe Infirmary in regard to its upkeep and nursing, with the proviso that it should not become an additional expense nor a source of profit to the institution.

In order that the University should take advantage of the opportunity and accommodation provided by Lord Nuffield's great generosity, a scheme for the establishment of a Medical Research Institute was drawn up by the Board of the Faculty of Medicine. The University has shown its desire and willingness to assist the scheme officially by providing the sum of £1,000 per annum until such time as the Institute is sufficiently endowed to run on its own resources. The Board of the Faculty of Medicine has agreed that a recent bequest amounting to £30,000, generously made to the University by the late Mrs. Theodore Williams, should be used for endowment, and there are smaller sums available from other sources. Lord Nuffield has shown his interest and further generosity by offering to help towards the expense of altering and equipping the Observatory building for its new purposes.

THERAPEUTICS AND *X*-RAY CINEMATOGRAPHY

The Observatory buildings become vacant in June, and it is intended to use them for two lines of research—namely, therapeutics and *x*-ray cinematography. There has been little organized research in therapeutics in this country, and no place where drugs used in medical practice can be subjected to independent and searching tests by pharmacological as well as clinical methods. It is hoped that Professor J. A. Gunn, as director of the Institute, with the facilities afforded by his pharmacological department, and with the ready co-operation of the medical staff of the Infirmary, will be able to fill many gaps in our knowledge of the action of drugs, and to open new lines of advance in their clinical application.

At first sight the connexion of *x*-ray cinematography with therapeutics may not be obvious, but the *x*-ray camera is a new scientific instrument which promises to throw light not only on clinical but on anatomical, physiological, and pharmacological problems. The recent developments of this technique by Dr. Russell Reynolds in London and by Dr. Janker in Germany are indicative of its future value both in research and in teaching, and further progress may be expected from their exploitation in connexion with the sciences ancillary to medicine.

It may be justifiably hoped that the establishment of a Medical Research Institute at Oxford will meet the generally admitted need for such units. There are always a certain number of medical men and women who are drawn towards research in preference to practice, who spend some years in training for research, and who are obliged to desert it because there are open to them so few posts which give them the necessary facilities as well as an adequate stipend. There is every possibility, too, that this unit may encourage closer co-operation and more combined effort in attacking problems which are of common interest to the staffs of more than one scientific department in the University.

Ireland

Milk and Dairies Bill in the Senate

In the committee stage of the Milk and Dairies Bill in the Senate of the Irish Free State Parliament Sir Edward Coey Biggar moved an amendment to give the medical officer of health of the district in which the milk was consumed the right to visit a dairy in another district if he suspected that disease might be conveyed by the milk from that dairy. Sir Edward said that the Bill empowered the medical officer of health to stop milk coming from a suspected dairy, but this would entail great risks, and no medical officer of health would ever do so until he was thoroughly convinced. By that time, however, a very large number of persons might be affected, whereas if the medical officer had visited the dairy when the outbreak was in an early stage he might have been able to prevent much unnecessary suffering and many deaths. Dr. Ward (Parliamentary Secretary) said he was opposed to Sir Edward Coey Biggar's amendment, and believed it was designed to give extra-territorial powers of inspection to medical officers of health. He intended to circulate an amendment for the report stage, which would provide for the most rapid method of notification that could be devised. The Bill as it stood was a more effective machinery than the amendment. On a division the amendment was carried by nineteen votes to sixteen. Sir Edward moved a further amendment, providing that any urban sanitary authority, with the consent of the Minister for Local Government and Public Health, might prohibit the sale of milk in its area, except designated and pasteurized milk. In support of his amendment Sir Edward said he would like the provision of a safe milk supply compulsory rather than permissive. The amendment would, however, give any urban sanitary authority the right, with the approval of the Minister for Local Government, to safeguard the inhabitants in its area from various diseases conveyed by milk. Dr. Ward replied that he was not strongly opposed to the amendment, and as there appeared to be a general view in the House that it should be incorporated in the Bill he was prepared to accept it, and to have an amendment drafted for the report stage.

Medico-Legal Action

In the High Court, before Mr. Justice Hanna and a jury, judgement was delivered in an action brought against the County Kildare Health Board by the father of a patient at the fever hospital at Naas. The plaintiff alleged that his child was removed to the fever hospital suffering from scarlet fever, and that the defendants did not discharge their duty of providing reasonably skilled and competent medical attendance for her. He seemed mainly to rely on the fact that the medical officer was relieved of the duty of physician of the fever hospital. The Local Government Board, in a letter to the Board of Health, stated that the doctor was medical officer and surgeon to the county hospital, and it did not appear to be in accordance with modern public health principles that he should also have charge of the fever hospital. In delivering judgement for the defendants, Mr. Justice Hanna said that his construction of this document was that it was inconsistent with a decision that Dr. Williams was a negligent or incompetent official, because he was retained by the Local Government Department in the major offices. Dealing next with the question whether the action was maintainable against the Board of Health, Mr. Justice Hanna stated that it was necessary to distinguish this case from actions brought against private nursing hospitals. A difference arose in regard to ordinary public hospitals endowed or supported by charitable donations. For the defendants it was contended that the Board of Health was merely a subordinate part of the organization of local government, and that any default on its part was the concern of the Minister, and the only remedy that might be open to the plaintiff would be against the actual wrong-doer. In this view the defendants were right. It was in conformity with a long

sequence of authority in this country. Hospitals for the relief of the poor or for the treatment of persons suffering from infectious diseases had been in existence since 1834, and it was admitted that no case had been reported in which a non-paying patient in one of these hospitals had succeeded in obtaining a verdict against the controlling body in respect of negligence by an official. Mr. Justice Hanna said that the law left the Board of Health free from any responsibility to the plaintiff, whatever remedy he might have against other parties. If this action was sustainable every person who became infected might have sued the Board of Health. In his opinion the action was unsustainable in its present form and against the present defendants.

Royal Victoria Hospital, Belfast

At the annual collection in aid of the Royal Victoria Hospital it was stated that in the year 1931 the record collection of £3,904 was made, but there had been a falling off since then, although the needs of the hospital were greater than ever. Last year nearly 7,000 intern patients were treated ; the free patient list totalled 6,255, and the number of patients who paid in whole or part for their maintenance and treatment was 580. Country districts subscribed about £1,000 last year, which was a most helpful contribution, but they could do still better. The average cost of a patient last year was 7s. 9d. per day. It cost close on £70,000 a year to run the institution.

England and Wales

Pharmaceutical Society's Projected New Home

The Pharmaceutical Society of Great Britain, which during its existence of nearly three-quarters of a century has had its headquarters in Bloomsbury Square, is contemplating a removal, though not an immediate one, further north to Brunswick Square, one of the squares lying to the east of the British Medical Association's premises and overlooking the Foundling Hospital grounds. Although from time to time the society has extended its premises in Bloomsbury Square, so that at present they cover a large island site, the property is too limited for its increasing activities and in some respects is out of date. There is no committee room other than a relatively small council chamber, and the office accommodation is inadequate. The leases on which the property is held are shortly falling in, but the freehold of the site is not purchasable. The society, therefore, desiring to have a site of its own, has acquired the ownership of the whole of the north side of Brunswick Square, except for one house which is being retained by the Foundling Hospital Committee as its offices, as well as several properties in the adjoining Hunter Street. In due course the new headquarters will be erected here, a building worthy of the society and architecturally an asset to London. Some of the present houses will remain in order to allow for further expansion, and in the meantime to bring in revenue. The project, however, has not proceeded very far, for the architect has not yet been appointed, and until that has been done the plans and the estimate of costs must remain rather nebulous.

Manchester Medical Society

At the annual general meeting of the Manchester Medical Society the new president, Dr. Arnold Gregory, paid tribute to the great services of Dr. E. B. Leech, the retiring president, and referred to the successful conclusion of the society's centenary year under his presidency. After Dr. T. H. Oliver had given a short appreciation of the untiring work of Dr. Leech on behalf of the society, a presentation was made to Dr. and Mrs. Leech. Dr. J. E. Spence then read a paper on "Glimpses of England during the Black Death." He said the term "Black Death," though later in origin, had now become classical and distinctive of the great plague of the fourteenth century. In order to arrive at a true estimate of the ravages of the pestilence it was necessary to have some idea of the social conditions of the country at that time. England was a feudal state in which the king was the absolute owner of the land. The land was granted to the barons in return for homage and military services, and was subinfeudated by them to knights, whose holding was termed a "manor." The manors were self-supporting, and were worked in common by the villeins in return for their holdings. Though the villein was not a free man and suffered from many disabilities, knowing no luxury, he was far from a slave ; his lot was little worse than that of his lord. The towns of that time, with few exceptions, were merely overgrown villages subject to manorial customs and dues. In the town the merchant guilds grew up to foster trade, and one of the early steps taken by them was to obtain a charter, on payment, releasing them from the irritating manorial restrictions and dues which hampered trade. The guilds took over the government of the town and developed into powerful and close corporations. In the towns sanitation was unknown, disease rampant, and mortality high, but the people enjoyed their simple pleasures and recreations, and were perhaps very little less happy than the town dweller of to-day. The Church was a powerful force in the life of the people. In the fourteenth century the monasteries were at their zenith, but they were not in touch with the lives of the people. They were, however, the only centres of education, and all educated men—lawyers, officers of the Crown, etc.—were of necessity in clerical orders. The parish priests and the various orders of friars were in close contact with the people, and when they lived up to the life they professed were a power for good in the community, but unfortunately many of them fell far below the ideals of the order. Such was the social condition of the country at the time the Black Death burst upon it. The disease, which was plague of the bubonic and pneumonic type, originated at Caffra, on the Black Sea, in 1346, and spread first to Constantinople, and then by the maritime trade routes along the Mediterranean to this country, which it reached in August, 1348. It began in Dorset, and spread rapidly, reaching London in October and the North of England in the early part of the following year. It attacked especially the young and vigorous, and was particularly fatal, death occurring in from twelve hours to three days. A distinctive feature was haemorrhage from the lungs in addition to the buboes. Estimates of the mortality varied considerably, as mediaeval chroniclers were extremely inaccurate in their estimates of large numbers. Research among diocesan records had shown that 44 per cent. of the clergy died of the plague, and this figure might be regarded as approximately accurate for the population as a whole. Since the population of the country at that time was about four and a half millions it was probable that the mortality from the plague was about two millions. The havoc caused by the plague was enormous. Villages were abandoned, manors uncultivated, grain rotted in the fields, and the cattle roamed at will untended. A scarcity of labour resulted, and wages rose to such an extent that an attempt was made to regulate prices and wages by the Statute of Labourers, but it was ineffective. Labour could not be obtained to cultivate the land profitably, and an impetus was given to sheep farming, which required less labour. The manorial system of agriculture was gradually superseded by the letting of land to farm, leading to the growth of the yeoman class of farmers. Changes equally marked occurred in the towns ; the guilds became more exclusive, and the growing class of paid artisans was exploited, with the result that associations of artisans were formed which were the beginnings of the trade union movement.

Hygiene of Crew's Quarters

Dr. W. M. Frazer, medical officer of health to the Port of Liverpool, in his annual report for 1934, discusses the general hygiene and planning of the quarters of a ship's crew. He cites in detail two cargo vessels built in 1934 ; one of these had had the benefit of care and imagination in planning the crew's quarters, while the other was

patently deficient, although it conformed to the standard requirements. Among the many defects in the latter were: (1) the crew was housed forward, with a noisy plain iron deck overhead and one room separated from the chain locker by a bulkhead only ; (2) the rooms contained six or eight bunks of the tubular type, poorly finished, and with distinct jagged ends ; (3) potential bug harbourage was afforded by the cup fittings of the bunks, and also by the tongued-and-grooved boarding of the bulkheads ; and (4) ventilation was afforded by goose-necked ventilators. There was also a sharp contrast in the washing facilities and water-closets of the two ships. In the one the baths were fitted with one tap conveying only sea water, all hot water having to be carried from amidships ; the wash-hand bowls of galvanized iron had neither hot nor cold water laid on, and in the same room with these basins were two water-closets which had no doors, and consequently no privacy. In the other vessel each bath had a shower and separating curtains, and hot and cold water was laid on to them and the wash-basins, both of which were made of porcelain.

Leicester Royal Infirmary

The trustees of Mr. Zachary Merton have offered to erect and equip a new convalescent home for men at Woodhouse Eaves, adjacent to the Swithland Convalescent Home for Women, at a total cost of building and furnishing of £34,000. For the maintenance and upkeep of the new home £7,000 a year will be needed, and it is hoped that this income will be forthcoming from the Leicestershire Silver Jubilee Memorial Fund. The total of beds in the two homes will be 120. The annual report of the Royal Infirmary for 1934 notes that there was a deficit of £1,500 on the year's working, but that various improvements were achieved, the principal building feature being the completion and occupation of the enlarged nurses' home in August, 1934. The cost of alterations and additions was in the region of £55,000, of which £18,000 remains to be raised. Additional accommodation achieved as the result of structural alterations included an obstetric unit of eleven beds with a labour ward ; six observation non-intercommunicating cubicles for children (which, it is stated, have resulted already in a fall in the incidence of infectious disease) ; an ophthalmic ward for six children ; and balconies enclosed in glass. The work of the Leicester Hospital for Diseases of the Skin has been transferred now to the Royal Infirmary, and two clinics are held each week in the out-patient department. A psychotherapeutic clinic has also been instituted.

Medical Inspection in Continuation Schools

A year ago the London County Council decided, as an experiment for one year, to arrange for the medical inspection and treatment of students attending at eleven day-continuation schools and three evening institutes, provided that the students were not more than 16 and were not obliged to undergo such inspection or treatment. In eleven months 757 students have been examined. The nutritional state in 298 was excellent, in 431 it was normal, and in twenty-eight subnormal or bad. The teeth were sound in 547, and there were less than four teeth decayed in 198. The vision was found normal in 564, slightly subnormal in ninety-three, and requiring treatment in 100. At the three evening institutes 170 students were examined, and the results were of much the same order. Some hesitation was apparent on the part of many of the students in accepting inspection. A number are at work with employers who provide medical care in illness or accident, but there is no periodical overhaul, except possibly on entry, with a view to discovering incipient defects, and it will probably be some time before the advantages of the Council's scheme are fully appreciated. The experiment is to be continued for a further year, and to be extended to one other evening institute. Arrangements have also been made for a voluntary medical inspection at junior instruction centres for unemployed boys and girls, with a view to ascertaining those who show symptoms of subnormal nutrition and for the provision of milk in such cases.

Health Congress at Harrogate

The first joint congress of the Royal Institute of Public Health and the Institute of Hygiene will be held at Harrogate from June 4th to 9th under the presidency of the Earl of Harewood. The subjects to be discussed have been grouped under five main headings: State medicine and industrial hygiene ; women and children and the public health ; tuberculosis ; rheumatism and allied diseases ; and hydrology, climatology, and meteorology. The presidential addresses in the various Sections will be given by Professor J. Johnstone Jervis, Lady Evelyn Collins, Sir Pendrill Varrier-Jones, Sir William Willcox, and Sir Henry Gauvain. The social features will include a garden party at Harewood House and a civic reception by the Mayor on Tuesday, June 4th, a visit to Knaresborough on June 6th, followed by a congress dinner at the Hotel Majestic, and a reception and dance on June 7th. There will also be visits to Harrogate Corporation Waterworks, the West Riding County Council laboratory, the factory of Messrs. Rowntree and Co., Ltd., at York, and the West Riding sanatorium.

Scotland

Committee on Scottish Health Services

The Secretary of State for Scotland has appointed Professor Edward P. Cathcart, C.B.E., LL.D., M.D., D.Sc., F.R.S., to be chairman of the Committee on Scottish Health Services in place of the late Sir John C. Dove-Wilson. Professor Cathcart is at present a member of the committee. He has been Regius Professor of Physiology in the University of Glasgow since 1928

Food and Nutrition

Speaking on "Food and Nutrition," at the annual conference of the Scottish National Health Visitors' Association at Stirling on May 18th, Professor E. P. Cathcart said that the mass of defects in the population was due to weak resistance and to neglect of minor illnesses during childhood. No subject at the present day suffered more from ill-advised gossip about the excellence of various foods than the science of nutrition, and there was a pathetic disregard of the value of materials like fish and skimmed milk. The assessment of the adequate quantity of food was usually made in calories, but too much stress had been laid on the importance of this. Professor Cathcart said that skimmed milk, of which thousands of gallons were destroyed daily in Scotland because there was no market for it, was almost as good as whole milk, because it had lost none of its proteins, although it was deficient in fat. There was no evidence at the present time of widespread malnutrition in this country, but he considered that acute malnutrition was sometimes found in a class which passed unnoticed in reports: he referred to those people who had once been "comfortably off," and who were now eking out a meagre existence on a small income. Sister R. Pybus, dietitian at Edinburgh Royal Infirmary, said that after inquiry into the dietary habits of many thousands of patients she was convinced that wrong feeding had been a contributory cause in many cases of serious disease. This was evidenced by the diabetic child who, on being deprived of milk, had failed to grow and lost its teeth ; the girl on a reducing diet without butter or milk, who developed eye infections or chest trouble ; and the patient with a peptic ulcer, deprived of fresh fruits and vegetables, who showed signs of incipient scurvy. It was easy to avoid foods which would aggravate particular diseases, but it was by no means simple to ensure a sufficient supply of vitamins and minerals when a diet had to be severely restricted. Dr. Nora I. Wattie, child welfare medical officer, Glasgow, stated that there had been a marked improvement in recent years in the nutrition of young children, as shown both by weight charts and by the reduction of rickets. Dr. Ian F. Macleod, medical officer of health for Stirling, entered a

plea for the value of honey as a food. The Government was spending millions of pounds on a beet sugar scheme, but honey was superior as a food, either to beet or to cane sugar, and, so far as children were concerned, honey could well take the place of butter. The public was not aware, Dr. Macleod continued, that Chinese eggs appeared in this country in various guises, although bacteriological examination had proved them to be highly objectionable.

Scottish Association for Mental Welfare

Speaking on mental deficiency as a biological and social problem at a conference of the Scottish Association for Mental Welfare in Glasgow on May 17th, Dr. Ivy McKenzie said that amelioration of the defective's lot might be looked for in the expansion of country life which was now taking place. He believed that when the system of special classes was instituted, defectives might attain a standard which would enable them to compete with average members of the community. The cost of such education was, however, disproportionately high, and at the present time only an insignificant number of the pupils reached a standard of development at which they could provide for themselves. Such children at school, even if they could not be educated, acquired habits of orderliness, obedience, and cleanliness, and these qualities could be secured in classes very much larger than at present with the same or even greater efficiency. Dr. H. Crichton-Miller read a paper on "The Stewardship of Mental Health," in which he said that the responsibility of doctors for mental health was small compared with that of teachers and the clergy. The most valuable contribution that the medical profession could make to the cause of mental health was to oppose the popular misconception that there was a great gulf between "nerves" and mental trouble, and to regard every departure from mental health as a mental malady. The community was justified in demanding that adequate training in regard to minor mental maladies should be provided for the medical student.

Chair of Ophthalmology in Glasgow

At a meeting of the Glasgow University Court on May 22nd Dr. Arthur James Ballantyne was appointed to the new Tennent chair of ophthalmology. The endowment for the chair was provided by the will of the late Dr. Tennent in 1914, but for several reasons it has not been possible until now to appoint a professor to fill the post. Professor Ballantyne is at present lecturer in ophthalmology in Glasgow University, and since 1909 has been ophthalmic surgeon to the Glasgow Eye Infirmary and consulting ophthalmic surgeon to the Western Infirmary and Glasgow Royal Maternity Hospital. He held the post of professor of physiology at the Anderson College of Medicine, Glasgow, from 1909 until 1914, when he became professor of ophthalmology at St. Mungo's College, Glasgow, and at the Anderson College of Medicine. Professor Ballantyne will be president of the Section of Ophthalmology at the Annual Meeting of the British Medical Association at Melbourne in September.

Duke of Kent in Edinburgh

The Duke of Kent, who has this year been appointed Lord High Commissioner to the General Assembly of the Church of Scotland, accompanied by the Duchess, has in the past week been paying the usual round of visits to medical and other institutions. On May 22nd he laid the foundation stone of the new Simpson Memorial Maternity Pavilion, which is being built in the grounds of the Royal Infirmary of Edinburgh and which, when finished, will be under the management of the latter institution. Following this ceremony the Duchess of Kent presented prizes to nurses undergoing training in the Royal Infirmary. Before laying the foundation stone the Duke said that this maternity pavilion was a tribute to Sir James Young Simpson, who had done much to lessen human suffering. The Royal Infirmary of Edinburgh, even in its earliest days, had undertaken special care of maternity work, although in the eighteenth century only a small ward with four beds in an attic story was available for this purpose. In proposing a vote of thanks to His Royal Highness, Sir Thomas Whitson, chairman of the Board of Managers, said that the Royal Infirmary of Edinburgh was now 206 years old, although the present buildings only dated from 1870, and the foundation stone had been laid by King Edward when Prince of Wales. In those days the science of medicine had been largely curative, but now the emphasis was on preventive medicine, and therefore they were laying the foundation stone of a building in which the mother and child would receive every attention. This Royal Infirmary was the largest voluntary hospital in the kingdom, and when the present pavilion was completed the number of patients under its roof would be 1,210. They were proceeding next to build on an adjoining site an addition to the Nurses' Home, to accommodate 280. The building and equipment of the maternity wing and nurses' home would cost £438,000, of which some £300,000 had already been subscribed, and an appeal must soon be issued for the balance. Their difficulties would not end there, however, for it was obvious that the annual expenditure would be increased for the maintenance of the additional number of beds. At the present time the annual cost of running the institution was over £162,000; with the new additions the cost would be some £182,000, which must be raised by voluntary subscriptions.

On the following day the Duke and Duchess visited the Church of Scotland Deaconess Hospital and unveiled a memorial stone to the late Lord Sands, chairman of the institution for twelve years; the Duchess of Kent later presented prizes to the successful nurses. They were received by Mr. J. A. S. Millar, chairman of the Board, who said that this hospital was the only institution of the kind which had been founded and carried on by any Protestant Church in this country since the Reformation. Its primary object was to train deaconesses and other workers in sick nursing, with a view to fitting them for service in home and foreign mission fields. During its existence the hospital had never been in debt, and at the present time the Board was engaged in a large reconstruction and extension of the hospital, with the provision of a new Nurses' Home, at a cost of £38,000.

Reports of Societies

EPIDEMIOLOGY IN COUNTRY PRACTICE

At a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine on May 24th, with Dr. J. D. ROLLESTON, president, in the chair, Dr. W. N. PICKLES of Aysgarth, Yorkshire, addressed the Section on epidemiology in country practice.

The area with which Dr. Pickles dealt was Wensleydale. Wensley itself, now a tiny hamlet, was once a proud market town, and the reason for its decline was written in its parish register. In 1563 it was attacked by the plague, a visitation on "hote and fearfull so yt many fled and the towne of Wensley by reason of the sickness was unfrequented for a long season." Much was to be learned of epidemic history, said Dr. Pickles, by a study of the parish registers. In a much later time (1841) a vicar of Askrigg in this same locality entered a marginal note, "Numbers 794 to 801 inclusive died of small-pox, all being unvaccinated, except No. 799, and she being sickly. Upwards of eighty cases of small-pox in Askrigg and only one death after vaccination" (meaning clearly only one death in a vaccinated person). It was given to the country practitioner, Dr. Pickles continued, to trace the origin and spread of an infectious disease more clearly than his town colleagues by reason of his intimate knowledge of the lives of his patients. He stood on a strategic pinnacle for the investigation of epidemics. Infection when it occurred was traceable in a manner out of the question in the crowded, varied life of the town. He had himself devised a method of investigating epidemic disease by means of charts such as were employed in the school epidemic investigation of the Medical Research Council, and these he had found very useful, especially in the

determination of the incubation period of infectious diseases. For one thing, it had led him to contest the textbook idea that the incubation period of measles varied by as wide a margin as from seven to eighteen days. He recorded case after case in which the source of infection was not in dispute, and the incubation period was exactly twelve days. One of the cases which Dr. Pickles related to the Section was the following:

A farm boy came one day to the surgery and announced that he had "gitten mazzles." This was certainly the case, and he was told to go home, shout to his mother outside the door, and have the living room cleared of his small brothers and sisters. He then proceeded to his bedroom, where he remained a fortnight. On the twelfth day following, his aunt, and only his aunt, became a victim of the disease, although she had never seen the boy and left the house the morning after his sickness began. It was found that the boy's bedroom and the living room directly below, by a capricious arrangement, were lighted by one long window, giving direct aerial access from one room to the other. The meal table was below the gap, and the aunt had sat directly underneath.

He gave some striking records of catarrhal jaundice, strongly supporting an incubation period of approximately a month. In his twenty-two years' experience in Wensleydale he had only seen one case of catarrhal jaundice which he could not prove to be part of an epidemic or directly traceable to another case. An epidemic occurred in 1929-30, with 250 cases out of a population of 5,700. There were no fatal cases. One man was off work for six months, and at least four had symptoms which were thought at first to be those of perforated duodenal ulcer. A distance of thirty-odd miles from hospital and surgeon was for once in the patients' favour; all of them cleared up in a few hours. Formerly in these villages, when there was little communication with the outside world, epidemiology could have been studied as effectively as Greenwood and Topley studied it in herds of mice. Even to-day it was not greatly different, although the village was no longer quite the closed community of the past. Of late years smaller schools had been closed, and the children conveyed to schools in the larger villages—excellent educationally, but assisting materially in the spread of epidemics. One teacher returned from holiday at a seaside resort—at a time when influenza was sweeping the large centres, though the Dale had escaped—and, although ill, attended school for a brief session. Seventy-eight typical cases of influenza were directly traceable to that unfortunate attendance. Three years ago a quite severe epidemic of Sonne dysentery was experienced. He concluded that this was spread by school children, for in no house were adults attacked first, and it was likely that defective personal hygiene of the children and primitive sanitary arrangements at school were responsible for the transfer of organisms from child to child and from child to parent at home.

Dr. Pickles next spoke of epidemic myalgia. In July, 1933, a boy, aged 2½ years, was attacked with pain in the upper abdomen and profuse sweating; he had a temperature of 101° F., and the respiration rate was 60 per minute. Next morning he appeared to have completely recovered, but on the following day the symptoms recurred, with the addition of a pain in the back. Eventual recovery was complete, but two brothers and two neighbouring children were similarly attacked, and finally the father of the boy was a sufferer, and the little epidemic came to an end. It appeared that two days before the boy showed symptoms a small girl visitor from York had spent the day with the family; she had spent it, however, on the sofa, crying with pain in the abdomen, and there was little doubt that she was the infecting case. It was evident that this was what was variously known as Bornholm disease, epidemic myositis, or (in America) "devil's grip." During the succeeding two months more than a dozen cases (unconnected with this first outbreak) were observed, and a small epidemic in Askrigg last year came under his notice. It was puzzling and alarming, and although really only a molehill, had a striking superficial resemblance to a mountain. Finally, Dr. Pickles mentioned that country beliefs were occasionally helpful. By listening to one such, Edward Jenner solved the riddle of the milkmaid's flawless cheek. William Withering was not above learning from the old woman who sold dropsy cure. He himself felt rather small many years ago when, propounding as a new discovery the connexion between herpes and chicken-pox, his patient interjected, "My mother always said they were the same disease." In his charts the association between herpes zoster and chicken-pox was well shown, though he could prove direct infection in only three instances.

Dr. J. D. ROLLESTON said that Dr. Pickles had shown what excellent epidemiological work could be done by country doctors. He had been specially interested in epidemic myalgia, apparently one of the few diseases that could be left to the physician to cure! He had been sceptical of the association of herpes zoster and varicella, but at least three remarkable instances in his own experience had converted him to a belief that there was an aetiological connexion. One of these was during a consultation at Greenwich, when the doctor in charge had been unable to decide whether a case in a girl of 18 was one of chicken-pox or of small-pox. It was obvious that it was chicken-pox, with a heavy eruption; a child in the house also had mild chicken-pox, and casually he remarked to the father, "You have not had shingles lately?" whereupon he pulled down his collar and showed an extensive scarring of herpes on the neck.

Sir WILLIAM HAMER suggested that there might be quite a considerable amount of epidemic myalgia in London at the present time. Three people whom he knew quite well had been suffering from a form of myalgia which attacked, not the abdomen, but the ambulatory muscles, and the pathognomonic symptom was inability to get in or out of a motor-car. Dr. E. W. GOODALL, in stressing the value of the country practitioner's work, said that Alexandre Millet, the French physician, a century ago could not persuade himself that typhoid was infectious, because he did not find it so in Paris, but it was shown to be infectious in the *départements*—that is to say, the country practitioner demonstrated its infectivity. Dr. S. MONCKTON COPEMAN endorsed the value of parish registers, and mentioned some research which he had undertaken in Norfolk, where many of the parish registers dated back to 1585. Often the parsons inserted marginal notes which were very illuminating. In the Norfolk village of Cley about the beginning of the eighteenth century there was a parson who filled many pages of his registers with epidemiological observations on the inhabitants of the parish, and there were references to a large outbreak of small-pox which devastated the neighbourhood. This parson recorded not only the deaths but the date of origin of the illness, where the people lived, and from whom they caught the contagion.

Professor MAJOR GREENWOOD described Dr. Pickles's work as fundamental epidemiology; it was a case of William Budd over again. In London it was rather hopeless to trace out lines of infection. What were wanted were many imitators of Dr. Pickles, doing the same kind of observation and recording. With regard to these references to epidemic myalgia, herpes zoster, chicken-pox, and so forth, was it possible that there was some interchange of epidemic type between these infections, so that what seemed merely to be an epidemiological curiosity might turn out to be a fact in epidemiology of great consequence? He had noted references recently in Continental literature to sweat epidemics, very similar to the pleurodynia and respiratory spasm which Dr. Pickles had referred to in his series of cases of epidemic myalgia, but among these Continental cases several appeared to have been fatal. It was of first-class importance to study the natural history of disease. Such a study as this was occupied with the real phenomena, to which the mice cages could only offer an imperfect analogy.

Surgeon Captain S. F. DUDLEY said that he had tried to make similar observations in a closed community, that on board ship, but there the community was artificially restricted and of a selected age group. He had kept no record of the association of herpes zoster and varicella, but a good many cases turned up in which there appeared to be a connexion, and in one case of typical herpes of

the dorsal nerve region there was varicella in the same patient at the same time. Dr. J. ALISON GLOVER said that he saw an epidemic of Bornholm disease last October in a large public school for girls and in a small preparatory school for boys, both in the same town on the East Anglian coast. Dr. PERCY STOCKS said that those engaged in the statistical study of epidemiology had had to take town populations for want of other material, but it was in the country villages that the best opportunities were presented. If only similar observations could be made and pooled it would be of the greatest value. Sir WELDON DALRYMPLE-CHAMPNEYS said that he was disappointed to to hear that Dr. Pickles had had no case of undulant fever in his neighbourhood. This was a disease not communicable from man to man, and therefore, in some ways, as the source of infection was known in most cases, it would appear to be easy to work out a clear-cut incubation period. But the onset was often very gradual, and it was necessary to consider previous ill-health which opened the door to a Brucella infection, as witness an interesting case reported in the current issue of the *British Medical Journal* (May 25th, p. 1068). Dr. W. S. C. COPEMAN said that epidemic pleurodynia was apparently a new disease in this country. Only the other day an eminent physician rang him up and asked him if he had ever heard of "lumbago in the front," because his gardener had got it. He tentatively suggested Bornholm disease, and later, meeting the physician in question, he was told that after seven days the gardener's wife had developed the same condition. As this disease had not yet got into the textbooks the more that could be learned about it at such meetings as the present the better.

Dr. PICKLES in his reply mentioned that epidemics of measles occurred in Wensleydale every nine or ten years. Another was due in 1938. There was a case of undulant fever in the district three or four years ago, but it was missed by him.

PREVENTIVE PSYCHOLOGY

At a meeting of the Medical Society of Individual Psychology on May 9th Dr. NEIL BEATTIE read a paper on individual psychology and preventive medicine.

Dr. Beattie said that preventive medicine had already made immense contributions to the national health by its attention to environmental hygiene, more especially in relation to water supplies, sewage disposal, supervision of food supplies, and the control of infectious diseases. The realization, however, that health meant wholeness—"the integration, unity, and harmonious working of the complete individual"—gave a wider and deeper significance to the function and purpose of the health services and of medicine generally. Mechanistic medicine was concerned with the treatment of diseased organs; but the higher form of medicine—human or philosophical medicine—regarded the patient in his entirety, not as a physiological machine, but as a human being with a soul. Adler's statement—that "it seems hardly possible to recognize in the psychic organ, the soul, anything but a force acting towards a goal"—sheds a flood of light on human behaviour or conduct. The development of the infant body depended upon wise care and feeding; but the growth and development of the infant soul depended primarily upon its contact with its mother or nurse. Where this association was of a pampering or neglectful character the psychic force of the child's soul, which should flow out to the mother, and from her to others, was swamped or crushed, and in consequence turned back upon itself. This failure to establish contact with another human being was the cause of the development of an egocentric or subjective attitude towards life; and the possessor of this life-style grew up with an unreal, unalive personality, and, not infrequently, "needed his fellow human beings only to exploit them."

The reality of life here on earth was, in Adler's view, the solving of the problems of comradeship, work, and love; and the individual who was living a complete, wholesome, and healthy life was he who had successfully solved this triple task. An egocentric life-style prevented a courageous approach towards reality; and, since the self-centred person was always concerned with the perpetual preservation of his own ego, stress of circumstances frequently compelled him to take refuge from the reality of life in psychoneurosis, psychosis, delinquency, and even actual physical illness. The day of human medicine had arrived beyond any question; and, while the medical technician merely treated a diseased organ, the educated physician knew that in addition to such treatment the patient frequently required to be set free from the fear of himself—that is, to lose some of his egocentricity by the development of social feeling and courage.

The real purpose of medical education was the production of an educated physician; and this could only be done by showing the student how to understand and to know himself, and by setting him free from the trammels of mechanistic medicine. Psychological clinics and trained psychiatrists were urgently needed throughout the country; but the greatest contribution to human medicine would be made by the influence of the educated family physician upon diseased bodies and souls. An even greater duty was associated with the real function of the doctor in the homes of the people—that is, as a teacher of the way of wholeness, completeness, and integration—which is health and freedom. The building of healthy houses was excellent and useful work, but it was the healthy home which produced healthy children and potentially healthy men and women. The root cause of ill-health, both physical and mental, frequently lay in disintegrated, unhappy family life; and it was for the medical profession to realize that in its hands rested much of the cure and still more of the prevention of national ills. Any medical man or woman who remained blind to the tremendous significance of the teachings of modern psychology to the science and art of medicine was in great need of the help of the very branch of medicine which he pretended to despise and of which he was really afraid.

PROBLEMS OF A POLICE-SURGEON

At a meeting of the Medico-Legal Society on May 23rd, with Sir BERNARD SPILSBURY in the chair, Dr. T. H. BLENCH, now of Manchester, formerly of Newcastle, spoke on a police-surgeon's problems.

DRUNKENNESS

Dr. Blench began by referring to the familiar case of "drunk in charge." Here, as in other matters, the only thing the police-surgeon could do was to follow the advice of the Lord Chancellor in *Iolanthe*, and keep his duty strictly before his eyes. The attitude towards the accused person should be one of frankness, and in a way friendliness—frankness in that the position was explained clearly, friendliness in that the examinee might feel natural and at ease. He cut down the examination to a minimum—walking across the floor, standing with eyes shut, the finger-nose test, a physical examination, five minutes' talk—these, with the person's demeanour, told him all he wanted to know. If there was sufficient doubt as to his condition the problem was solved—the accused should have the benefit of it. The police-surgeon should not be led into the circumstances of the arrest except by the man himself. Shock was a frequent defence in these cases, often put forward in court on very slight grounds. Sometimes, on the other hand, in an accident caused by alcohol, the result of the accident was to remove the alcoholic effect, a fortuitous circumstance in the individual's favour. It was popularly supposed that if drink had been taken and an accident followed, the accusation of being "under the influence" was bound to be made. That this was not so was shown by the number of accidents that happened daily on the roads, the relatively small proportion of motorists who were total abstainers, and the relative infrequency with which a charge of drunkenness was preferred. With regard to scientific tests—alcohol in the blood, in the urine, even, it was now suggested, in the cerebro-spinal fluid—here the question of consent constituted another problem; such investigations without consent would amount to assault.

He could not but express his admiration for the fervour with which the legal profession defended persons charged. Had he not known the facts as a result of his own examination he would have doubted his eyes, so skilfully was the defence presented. It had been argued that the police-surgeon was there to support the opinion of the police. In fact, he supported the case of the police only after his own observations had satisfied himself as to its validity. He was concerned only with his own observations and deductions, and responsible only to his conscience. The fact that alcohol had only a transient effect on the individual enabled a number of different opinions to be formed about a person's capacity according to the time of examination. With the increasing tendency to utilize medical opinion in the administration of justice had come the realization that medicine was not an exact science and that there was room in it for difference of opinion. Some people appeared to consider that while lawyers were entitled to differ strongly in the interests of their clients, any such divergence of opinion among medical men must be the result of some financial interest. The legal mind had more than once used this to influence the jury, suggesting that the expert opinion had been "bought." It had even been complained that the Crown had bought the expert medical opinion and left the market empty to the other side. And the Press, to demonstrate its zeal for the public good, published any such innuendoes in startling type, enabling both journalists and advocates to appear in the grateful role of guardians of the public. But it was only the unthinking who were misled.

OTHER PROBLEMS

Turning to other problems of less frequency than the recurring "drunk," but perhaps of more interest, Dr. Blench said that the primary investigation of sudden death furnished an opportunity for logical deduction and hard thinking, and he related one or two remarkable cases which had come his way in which the first conclusion was not justified by the later disclosure. Sometimes the police-surgeon's conclusions made the layman gape, but when the process of deduction was explained he thought he could do it himself. He remembered examining a body which had been two months in the Tyne, and giving evidence that there was no ante-mortem injury and that death had been due to drowning. One of the reporters commiserated with him afterwards on a disagreeable task, and added that he must be very clever to be able to tell two months afterwards that a man was alive when he went into the water. He explained that there was sand in the lungs and in the stomach, and that swallowing was a conscious act. "Is that all?" said the reporter. "I will do the next one for you." But the next one, the reporter was told, might be different.

The cut throat at times furnished the police-surgeon with a problem. The appearance in a case of suicide, which looked like murder at first sight because of the disorder of the room and the blood splashes on the walls, was explained by the fact that the perpetrator had actually made attempts with three knives before finding the razor with which the act was completed. In one case his help was solicited in a charge of house-breaking. The housebreaker had left behind a half-eaten apple. A dental mould of the suspect was taken and the indentations fitted exactly. Seldom had a man been so literally convicted out of his own mouth! Sometimes the police had a touching faith in the powers of their surgeon. He was called one day to a station where an accused man had caught hold of a betting slip which had been taken from him and to the dismay of the inspector had swallowed it—"and so," the sergeant explained, "we sent for you." Asked what they wanted him to do, they replied, "Well, we thought you might give him an 'injection' and make him vomit it up"! The production of scientific evidence, said Dr. Blench in conclusion, had captured the imagination of the police and the public, and Continental methods in this respect were being copied. But there was always in new methods a danger of overemphasis. In medicine scientific investigation was only a supplement to clinical investigation, and must never replace it.

DISCUSSION

In the ensuing discussion the chief topic was drunkenness. Mr. CLAUDE MULLINS, metropolitan police magistrate, said that he paid just as much attention to the evidence of the police officer who saw the man first as he did to that of the police-surgeon who saw him later. In the old days the question of drunkenness brought in many subtleties of definition, but the Road Traffic Act, 1930, with the words, "Any person who . . . is under the influence of drink or a drug to such an extent as to be incapable of having proper control of the vehicle," made things much easier. He no longer worried about technical questions to doctors or other witnesses. He simply asked them, "Would you have liked the accused to drive you home?" The day had gone by for all the old sophistries, although that fact did not seem to have penetrated the minds of defending counsel. It amazed him to hear the subtleties advanced in defence, but in nine cases out of ten the verdict of the police constable was adequate. In a recent case the defence was that the condition of the driver was due to gas fumes in the car. He, the magistrate, put to him the "horse sense" question, "Were your windows up?" and received the reply that they were. All these theories evaporated in a court that knew its business. A complicating thing, however, was that sometimes a man who had taken alcohol started to drive his car and drove it quite well for a long distance, after which he got into trouble. He had recently before him two men, one of whom had driven from the City and the other from the West End without attracting any attention, and only when they reached his district (Putney) did the circumstances which led to the charges arise. Apparently a man could take a fairly large amount of alcohol, and if he drove soon afterwards could achieve a considerable mileage without arousing suspicion.

Several other aspects of the same problem were touched upon by various speakers, as, for example, that a man might be too drunk to drive a car but not too drunk to drive a horse, also the interaction of fatigue effects with those of alcohol; and one speaker opposed Mr. Mullins's dictum about gas fumes, pointing out that these might arise without the driver's consciousness of them. The case was also mentioned of a police-surgeon who, finding a man so obviously drunk that it was unnecessary to make any tests, told the magistrate so, whereupon the magistrate said that he could not convict on that evidence and that he must have the result of a test. Next time the police-surgeon thought he would be ready for him, and carried out every conceivable test, whereupon the magistrate said, "Well, if you were able to carry out so many tests on him he could not be so very drunk"! In speaking of curious defences, one legal member said that he had heard malaria put forward seriously as an excuse for bigamy, and had seen a man enlist the obvious sympathy of the judge by giving as an excuse for a course of immoral and fraudulent conduct the shock to his system consequent upon having been jilted! Some interventions by the medical profession for the assistance of lay tribunals did not assist the course of justice.

In reply to a point that a little alcohol might make for safer driving, Dr. P. B. SPURGIN said that the effect of alcohol was to render a person more reckless and therefore to make him apparently a better and more self-confident driver for a short time, but he was none the less a danger on the road. With regard to the function of a police-surgeon, he was not there to assist the police to convict, but to elucidate a problem. Sir BERNARD SPILSBURY said that in some cases there was undoubted shock, simulating alcoholic effect, after a collision. He had himself experienced the disagreeable effects of shock following a motor car accident; he was "dithering for half an hour afterwards," and he could readily believe that a police officer might mistake the symptoms for drunkenness.

CORRESPONDENCE

Acute Tonsillitis

SIR,—Dr. F. E. Camps's paper on acute tonsillitis published in your issue of May 25th (p. 1061) is timely, and should prove of particular interest to general practitioners. The medical student neither sees acute tonsillitis nor does he receive very much instruction in regard to its treatment. On entering general practice he at once finds that tonsillitis recurs with monotonous frequency, because it is practically endemic in this country. I have long felt that the treatment of tonsillitis as usually employed lags behind our knowledge of its bacteriology, symptomatology, and of the liability to special complications. Dr. Camps mentions three types of cases met with in the Chelmsford area in 1933–4. The first of these is described thus:

"1. *'Red and Glazed' Type.*—The tonsils were red and injected, and not usually swollen. This appearance was spread about half an inch laterally from the anterior pillars of the fauces. The uvula was also affected, and was red and slightly swollen. The posterior pharyngeal wall appeared to share in the inflammation."

This is surely a very good description of an influenzal throat. Moreover, Dr. Camps states that "following rapidly on the sore throat there would be a dry, harsh, painful cough." This is quite understandable if we assume this type to have been influenza.

As was explained in a leading article in the *Journal* during the 1933 epidemic, influenza in England takes the form of a tracheo-bronchitis. I would suggest that pharyngo-tracheitis is a better description. Almost all cases of epidemic influenza have at the outset an intense hyperaemia of all the tissues of the throat, *in which the tonsils share*, but this does not make the case one of true tonsillitis. The infection rapidly spreads to the trachea, where it is frequently present already when the practitioner first sees the case. If the subject is "chesty" bronchitis develops later, but only in a limited number of cases. We then have pharyngo-tracheo-bronchitis. True tonsillitis begins in the tonsils, and with few exceptions remains in the tonsils—that is, the infection does not spread to the lower respiratory tract. In my experience cough in the case of tonsillitis is very rare.

It is very important to distinguish between the two conditions, because the treatment is different. Antiseptic gargles are useless in the case of an influenzal throat, because the infection is away into the trachea in a few hours, and often by the time we are called in. In the case of oedematous or ulcerative tonsillitis antiseptic gargles, such as chlorine and the hypochlorite preparations, produce remarkable results. A follicular tonsillitis in which the ulceration is so marked that the condition resembles a bad case of diphtheria will often clear up in a few days if the chlorine gargle of the *B.P.C.* be employed. The fall of temperature is often most striking and complications are rare. I regard ten to fourteen days as being the average duration of incapacity, even for the ulcerative type of tonsillitis treated with chlorine gargle; this compares favourably with the three weeks' incapacity noted by Dr. Camps.

Recently I have had encouraging results from swabbing the affected tonsil or tonsils with pledgets of wool soaked in chlorine water or eusol. The swab can be pressed into the crypts of the tonsils (where such exist) by holding it with artery forceps, and thus a septic nidus can be reached which may not always be accessible to gargle. I have been able to abort tonsillitis in children by this method, so that absence from school was limited to three or four days. I believe that a study of the comparative value of various antiseptics in the treatment of tonsillitis would yield valuable results if undertaken by general practitioners, who alone see sufficient cases from which to draw definite conclusions.—I am, etc.,

York, May 26th. H. E. KING REYNOLDS, B.A., M.B.

SIR,—Dr. F. E. Camps's lucid account of the complications following a recent epidemic of tonsillitis (*British Medical Journal*, May 25th, p. 1061) is of great interest to those of us who have been accustomed to these epidemics for the last ten years. It is no exaggeration to say that the condition is now endemic in the South Wales mining areas, and causes more invalidism and loss of work than any other complaint, but, as the condition is not notifiable, the official health authorities are probably unaware of its presence—at any rate, there is no need for action! And yet there is a tremendous ado about the mild case of scarlatina which causes no anxiety.

I have seen all the complications mentioned by Dr. Camps. Two children were operated upon on the same day. Both had had bad throats, and one now had a streptococcal peritonitis (I had diagnosed it as pneumococcal) and the other an abscess of the buttock (tuberculous hip or spine had been considered, though I thought the condition pyaemic). The report on the pus was practically identical—a haemolytic streptococcus. I have had two cases of thrombosis of the lateral sinus, one fatal. I have seen fatal cases of meningitis, one of cerebral abscess (unconnected with the ear), and cases of pulmonary abscess, all follow tonsillitis.

Nephritis after tonsillitis is very common, and I referred to it in my Sir Charles Hastings Prize Essay in 1928. Is it not embolic in many cases? One girl patient of mine with old rheumatic valvular disease of the heart was observed during three attacks of tonsillitis. On each occasion she had haematuria, due to infarction of the kidney. I saw a fatal case of nephritis (in a young man) with uraemic convulsions; this was preceded by a sore throat early last June. Large doses of anti-streptococcic serum were given. A few days later a patient of a colleague died of eclampsia. A coincidence, it may be asserted. And yet there was a good deal of eclampsia "about" at the time. That the latter should occur seasonally is what I expect, as I look upon eclampsia as an air-borne infection affecting the kidneys, and not as a "toxaemia of pregnancy." Why should not the pregnant woman suffer from nephritis just as do the non-pregnant woman and the male during the epidemics of renal conditions which one frequently observes in practice? These reflections came to mind on reading Dr. Camps's statement that another puerperal condition—sepsis—had been higher in his district of late. I have always found puerperal morbidity higher when tonsillitis and influenza are about. It is probable that the experts who talk so glibly of the percentage of maternal mortality that is preventable are unaware of the widespread presence of the streptococcus these days. Acute pyelitis here is almost as common a complication of tonsillitis as nephritis. I have attended many women at the same time for it. Some of them have been pregnant. We must then use the term "pyelitis of pregnancy," though it is plain to the man on the spot that the aetiology is the same as in the non-pregnant woman.

I see no mention in Dr. Camps's article of pulmonary infarction as a complication. This has been very common here after tonsillitis, and is associated with an alarming illness in which the features are those of a pleurisy or a pneumonia of short duration. Later, characteristic blood sputa are expectorated. In many cases this occurs in a patient who has had other complications. Thus, in February, 1926, one young man had, in succession, acute tonsillitis, otitis media, nephritis, pulmonary infarction, peripheral thrombosis. He later suffered from haemolytic anaemia, but recovered. I have referred to this subject elsewhere.[1] I notice that erythema nodosum is not mentioned by Dr. Camps. I have seen several cases of this: in fact, in eighteen years I have never seen it other than as a result of tonsillitis or influenza—more commonly the former. One

[1] *Bristol Med.-Chir. Journ.*, 1930, xlvii, No. 175.

of my sons had it when nearing his fourth birthday. With reference to the arthritis that occurs after tonsillitis and its differentiation from acute rheumatism, we are dealing with a difficult problem. The distinction between the two may not be cut-and-dried. After all, acute rheumatism is most certainly a streptococcic infection. This much we can say: the effect of tonsillitis on patients with valvular disease of the heart the result of rheumatism is often very profound. I have seen many cases of simple endocarditis become malignant as the result of a superadded throat infection.

Dr. Camps does not mention the cinema as being a factor in the spread of these infections. Since the advent of the "talkies" these places of amusement are tremendously popular. The atmosphere in most of them is terrible, and I am sure that if Dr. Camps and his co-workers exposed a few plates in some of them they would obtain luxuriant growths.

—I am, etc.,

Aberdare, May 27th. AMBROSE W. OWEN.

Omental Plug in Stomach Perforation

SIR,—Anent the controversy between Captain A. T. Andreason and C. L. Isaac concerning the use of an omental plug in gastric perforation. I have used omental plugs in perforated gastric ulcers for the past fifteen years in all cases in which the size and thickness of the callus surrounding the perforation made it impossible to overlap the edges thereof by means of interrupted sutures. The plug I use is a free section of great omentum fashioned into an hour-glass shape, one half of which is poked through the perforation. The plug is reinforced by an omental flap sutured around the ulcer area at a distance of from one to two inches from the margin of the induration. My only failure so far was encountered quite recently in that rare anomaly of simultaneous gastric haemorrhage and perforation. In this particular case a secondary haemorrhage occurred on the fifth post-operative day, with exitus of my patient.

Trusting this transatlantic opinion may be of some interest to my British colleagues,—I am, etc.,

GEORGE DE TARNOWSKY,
Professor of Surgery, University of Illinois School of Medicine.

Chicago, Illinois, May 14th.

Gastrectomy

SIR,—May I refer briefly to a few points in the controversy which my paper has unwittingly raised. Criticism has been directed against its manner and its matter. For any offence that may have been caused by my references to gastro-jejunostomy among those surgeons who made the roads upon which we have travelled hitherto, I should like to apologize unreservedly. In mitigation I may say that my paper was condensed from the notes of a series of post-graduate lectures, and that I was forced to abbreviate the first of these, which had already been published, into a few sentences. A conclusion robbed of its premisses is unavoidably dogmatic.

The views of many of these writers differ, I believe, from mine less in fundamentals than in the extent to which they would be prepared to carry out the principles I have suggested. Some have since been to see me, and, if not convinced, have at any rate modified their opposition in consequence. Mr. Irwin's letter is an admirable expression of the standpoint of those who wish to defer judgement till more evidence is available. Mr. Marshall's questions are answered in my address in the *Lancet*, of which I have sent him a copy; his line from Shakespeare, apt though it is, is not quite so pertinent to the present situation as to the two which precede it.

Mr. Paterson speaks from an experience greater than mine, and I cannot find fault with his temperate disapproval. I hope, however, that every surgeon will settle the point he raises about the neutralizing effect of gastro-jejunostomy for himself. An average reduction in acid level of 30 per cent. suggests that Mr. Paterson's observations were made in the post-operative stage. Any severe abdominal operation, not necessarily gastric, will depress the functions of the stomach for some weeks, but that the rapid emptying which is the real cause of a high acid curve in the ulcer patient should be remedied by a fresh opening at its most dependent part is hard to understand. My own experience has been that the acidity is not found to be reduced when the case is examined after a year, and Hurst, Ryle, and Conybeare have found the same.

Lord Moynihan maintains that by careful selection, technical artistry, and prolonged after-care, gastro-jejunostomy can be kept in the pre-eminent position which it occupies in this country if in no other. My difficulty in accepting such a view is that the failures which have forced me reluctant from the fold have mostly been the patients of men whose judgement is beyond reproach and whose technical ability is above criticism.

The problem in its simplest form is not that of gastro-jejunostomy *versus* gastrectomy, but of gastro-jejunostomy for active duodenal ulcer without stenosis *versus* physiological gastrectomy for the same condition, should it ever require surgery. Gastro-jejunostomy is a short-circuiting operation, and for a mechanical obstruction it provides a mechanical and eminently satisfactory remedy. For ulcers without stenosis it can only be supported by the statement that it is successful. The acid-reducing gastrectomy with prepyloric section and a valvular stoma, a totally different operation from gastrectomy for cancer, is planned to combat the causes of ulceration and to avoid the immediate dangers and late failures of the textbook resection. It has been called mutilating and dangerous: it is reasonable and safe. That it is as safe as gastro-jejunostomy I have been able to convince those surgeons who have visited me; its mortality cannot be estimated till it happens. That it is reasonable should be apparent to those who regard it in terms of function and form, and not of form alone, and who are familiar with the experimental work of Mann, Florey, and Meulengracht.

If this correspondence has done nothing else it has revealed a very wide acceptance of the standpoint that gastro-jejunostomy is not the simple and safe remedy for ulcer that we believed it to be ten years ago, and that it must only be applied after most searching consideration of the circumstances of the individual case. The number that will be found suitable after such a scrutiny will vary with the individual surgeon; as the failures come to light, and as the results of efficient medical treatment, and of gastrectomy as a physiological measure where medicine has failed, become appreciated, I believe they will be few.

—I am, etc.,

London, W.1, May 26th. W. H. OGILVIE.

Septicaemia due to Brucella abortus following Operation

SIR,—I have read with great interest the report by Drs. Potter and Harburn, in your issue of May 25th, of a case of septicaemia due to *Brucella abortus* following operation.

This is an extremely interesting case, and raises more points than can be dealt with in a letter, but I should like first of all to agree with the authors that this confirms my supposition, which they quote, that the onset of undulant fever may be due to the lowering of the patient's

resistance by some other factor. Secondly, I would point out that the author's statement that there is no positive evidence that Brucella infection can cause abortion in women, though true at the time when I wrote my report for the Ministry, is no longer justified. Apart from the reports of a considerable number of cases in which there was presumptive evidence, more or less strong, of abortion, miscarriage, or premature birth being caused by *Brucella abortus* infection, at least one case has been reported in which full proof of abortion from this cause has been adduced. I refer to the case reported by Carpenter and Boak (*Journ. Amer. Med. Assoc.*, 1931, xcvi, 1212), in which *Brucella abortus* was isolated from the vaginal contents in a case of incomplete abortion. The nature of the organism was fully confirmed microscopically, by guinea-pig inoculations, and by agglutination and complement-fixation tests.—I am, etc.,

Ministry of Health, S.W., May 24th. W. DALRYMPLE-CHAMPNEYS.

Iodine, the Thyroid, and Lymphatic Leukaemia

SIR,—Dr. M. C. G. Israëls (in the *Journal* of May 18th, p. 1021) does me the honour of quoting my reference to the treatment of lymphatic leukaemia with iodine, and I was naturally interested in his careful experiments to determine the value of this treatment. It is hardly possible personally to verify all the statements one makes in a textbook, and my recommendation of iodine in lymphatic leukaemia was based upon Friedgood's work.[1] I have now had the opportunity of employing iodine in several cases, and have never been persuaded that it has any useful effect.

A man of 56, with chronic lymphatic leukaemia of nine years' duration (proved by biopsy), had a total white cell count of 6,700 per c.mm. (lymphocytes 5,160) and a basal metabolic rate of + 38 per cent. After ten days' treatment with Lugol's iodine solution, 10 minims three times a day, there was no change in the physical condition ; the white cell count was 10,800 per c.mm. (lymphocytes 9,000) and the basal metabolic rate + 46 per cent.

Some time ago I had under my care a young lady with chronic lymphatic leukaemia, whose symptoms closely resembled those present in the patient treated by thyroidectomy by Dameshek, Berlin, and Blumgart.[2] As she derived no benefit from orthodox measures, I persuaded her to have a complete thyroidectomy. The operation had absolutely no effect on her disease, and I therefore feel that the improvement which Dameshek reported was due not to the operation, but was a spontaneous remission such as many of us have seen in atypical cases of leukaemia.

The patient, who was 26 years old, had been under observation for two years with a relatively aleukaemic type of lymphatic leukaemia, of which the most troublesome symptom was a pruriginous eruption of the skin. The lymph glands throughout the body were moderately enlarged and the liver and spleen were easily palpable. A gland removed at biopsy showed the appearance of lymphatic leukaemia. In spite of various treatments, including *x*-ray therapy and iodine, her condition was getting steadily worse. Her blood count was: red cells, 3,000,000 per c.mm. ; haemoglobin, 42 per cent. ; white cells, 20,000 per c.mm.—neutrophils, 37 per cent. ; eosinophils, 3 per cent. ; basophils, 1 per cent. ; lymphocytes, 48 per cent. ; monocytes, 11 per cent. The thyroid gland was moderately enlarged and the basal metabolic rate was + 28 per cent. After two transfusions Mr. E. G. Slesinger performed a complete thyroidectomy on June 19th, 1934 ; sections of the gland showed a colloid hyperplasia. Further transfusions were necessary after the operation, and there was no change in the clinical condition. Six weeks after the operation the blood count was: red cells, 3,100,000 per c.mm. ; haemoglobin, 52 per cent. ; white cells, 11,200 per c.mm.—neutrophils, 35 per cent. ; eosinophils, 5 per cent. ; basophils, 1 per cent. ; lymphocytes, 42 per cent. ; monocytes, 16 per cent. ; myelocytes, 1 per cent. The lymph glands, the spleen, and the liver had not altered in size. The basal metabolic rate was still + 12 per cent., though her appearance was now definitely myxoedematous. Treatment was subsequently continued with small doses of thyroid and *x*-ray therapy. Five months after the operation her condition had deteriorated, the glands had increased in size, the white count was 6,700 per c.mm., and the haemoglobin 24 per cent. I have just heard from Dr. W. M. Ramsden, who was in charge of the case, that she died on May 12th, 1935.

It would appear from Dr. Israëls's work, to which these casual observations of mine are added, that the resemblance of lymphatic leukaemia and hyperthyroidism is superficial and not due to an aetiological relation ; that iodine is of little or no therapeutic value ; and that the operation of thyroidectomy is unjustifiable in the treatment of lymphatic leukaemia.—I am, etc.,

St. Bartholomew's Hospital, May 23rd. L. J. WITTS.

[1] Friedgood, H. B.: *Amer. Journ. Med. Sci.*, 1932, clxxxiii, 515.
[2] Dameshek, W., Berlin, D. D., and Blumgart, H.: *New England Journ. Med.*, 1934, ccx, 723.

Selenium in the Treatment of Cancer

SIR,—I was naturally extremely interested in the letter from Dr. Hernaman-Johnson bearing this title in your issue of May 18th, for it is now sixteen years since I introduced this method in Bristol (at the Royal Infirmary), and you published my first note on the subject in October, 1919. A year later (*British Journal of Surgery*, 1920, viii, No. 29, p. 50) I published an abstract of an M.D. thesis devoted to the subject, in which I pointed out the possible applications of selenium in pre-operative and post-operative treatment, and mentioned the combination of radiotherapy with injections of selenium. The results impressed me so favourably that since then I have at no time been without a number of patients under this treatment, employing the intravenous " collosol " selenium that Messrs. Crookes kindly prepared for me. I have frequently shown patients at medical meetings, and published notes of cases treated both with selenium injections alone and in conjunction with radiation treatment: it is possibly my own fault that this work has not enjoyed the *réclame* of some other labours in the same field.

Dr. Hernaman-Johnson has referred, both in his letter and elsewhere (*Proc. Roy. Soc. Med.*, Clinical Section, xxviii, No. 6, April, 1935, p. 758) to the method of treatment by injections of selenium combined with *x* rays as " Dr. A. T. Todd's method," which might give rise to some confusion unless this is more exactly specified. Dr. Todd's earlier publications on the subject of chemotherapeutic treatment (*Bristol Medico-Chirurgical Journal*, 1927, xliv, No. 164, p. 144 ; *Chemotherapeutic Researches on Cancer*, J. W. Arrowsmith Ltd., 1928) dealt with injections of lead selenide, in which the selenium was regarded as merely an adjunct: throughout, the dosage is given in grams of *lead*. At that time Dr. Todd considered selenium (without lead) as quite inert against cancer, and that it was definitely dangerous to combine *x*-ray with chemotherapeutic treatment. The clinical experience of years led me to disregard these views, and to continue the methods which I had found, if not completely satisfactory, at least of material benefit. But it is comparatively recently that Dr. Todd has become a convert to the efficacy of selenium without lead and its safety with *x* rays.

With Dr. Hernaman-Johnson's protest on the harmlessness of selenium injections, with or without *x* rays, I am in hearty agreement. Since no special provision of beds has been made for my work and treatment may be continued for many months, nearly all my patients have been

treated as out-patients. The scheme at which I aim is to give about fifty intravenous injections of 10 (sometimes 15) c.cm. of "collosol" selenium during the first year, generally about two a week, with rest intervals of three weeks after each six weeks' treatment; but the exact spacing of doses is partly determined by whether *x*-ray, radium, or surgical treatment is considered advisable in addition. There has never been any evidence of selenium poisoning at all, except that within a few minutes after injection, with the earliest injections, a transient disturbance is sometimes noted. There appears to be no object in increasing the dose above this: the best results are obtained with a long course of small doses rather than by large doses concentrated in a short time. The only effective means of convincing any individual that the method is of value is to persuade him to try it over a series of cases. It is safe, not expensive, and can be carried out while the patient remains at work; and I hope the publicity of these letters will lead to more surgeons giving it a fair trial.—I am, etc.,

Clifton, Bristol, May 23rd. E. WATSON-WILLIAMS.

SIR,—Though greatly tempted, I am informed that to ignore Dr. Douglas Webster's agglomeration of misstatements in your issue of May 25th (p. 1097) would probably give a wrong impression. I will deal only with his assertion that selenium is a toxic substance.

Dr. Webster appears to think that selenium is one substance, that all selenium products are similar, and that the evidence as to one product is applicable to all. Selenium is a very complex element, with at least five isotopes; it can enter into the composition of as many compounds as can sulphur. As with sulphur and other reactive elements, it can produce compounds which run all the gamut of complete inactivity to intense toxicity. His evidence, quoted from the findings of Petersen, Gillett, and Wakely, Datnow, and von Wassermann, is therefore of no value in this connexion, as the preparations which they used were very different from that which he attacks. The colloid SSe is relatively non-toxic, provided certain elementary rules of cleanliness of the glassware used in its administration are carried out. The toxic dose for mice is 1.5 c.cm. per kilo; the optimal therapeutic dose for mice with slow-growing implant cancer is 0.12 c.cm. per kilo; the therapeutic index is therefore good. The toxic dose for man has not be estimated, but doses up to 25 c.cm. have frequently been given when necessary to obtain the slight late focal reaction which has been found to be optimal.

Dr. Webster considers selenium treatment as similar to, if not identical with, protein shock. This is incorrect; protein shock, as from milk, etc., gives a shock which comes on rapidly and is associated with pyrexia. SSe, administered properly, never produces any shock; but four to forty-eight hours later, dependent upon the dose, there appears a mild focal reaction, as occurs after an optimal dose of a vaccine; there is no pyrexia, but an antipyretic action, if pyrexia be a symptom of the neoplasm. Any shock-like sequel occurring within two hours of injection is due to faulty technique; and it should be carefully avoided, as such shocks damage the patient. Shock reactions are now infrequent in my clinic—not more than about twelve a year, divided among fifty or more patients.

RAS, and to a less extent SSe, are relatively stable colloids, but they will not stand up to unclean syringes. It is not generally understood that glassware is exceedingly difficult to clean; many substances are adsorbed to its surface, and may not be removable. It is this adsorption of crude spirit, alkaloid, or serum which causes shock reactions; the colloid itself, so far, has never been to blame. Several batches of colloid, returned to the manufacturers from London and provincial centres, have been sent to my clinic; in no case has any toxicity been found, and the whole of the batches have been used in routine treatment of my cancer patients. The patients of my clinic attend weekly from distances which vary up to eighty miles; they travel by train or by car. They come, have their injections, and go home at once. Is it likely that this would continue if shock reactions were the result?

A leaflet giving some hints on the administration of these colloids is being prepared, and will be obtainable from the manufacturers. If Dr. Webster will follow these instructions implicitly he will find that the colloids RAS and SSe are no longer toxic. The method is far from foolproof: attention to certain elementary rules is an absolute necessity if beneficial results are to follow.—I am, etc.,

Clifton, Bristol, May 26th. A. T. TODD.

Poliomyelitis in Boarding Schools

SIR,—I have to thank Dr. R. W. Fairbrother for his reply (p. 1052) to my letter (p. 999) questioning his opinion that the closure of boarding schools infected with poliomyelitis is a dangerous step, and asking for the facts on which his view is based. He replies that "definite evidence supporting either view does not appear to be available"; but this is a hard saying, since lack of evidence that the procedure is harmful is the only proof that we can expect of its being harmless. Moreover, it is difficult to believe that the facts are not available somewhere. A few years ago several schools were closed down owing to poliomyelitis, and the disease is notifiable. I am, as I stated before, under the impression that no harm came of it; and at least until the evidence is available the dictum of the Ministry of Health (1932) that the "balance of advantage" is against the closure of the infected school is not likely to weigh with parents in the horrid position of having a child in danger.—I am, etc.,

London, W.1, May 27th. REGINALD MILLER.

Compensation for Weil's Disease

SIR,—In the *Journal* of May 25th there is an article on compensation for Weil's disease, which states that "the latest disease to be added to the category of 'accidents' is Weil's disease." I wish to record that the widow of a patient of mine (who died of this disease in 1925) was awarded compensation in February, 1926. The patient was a coal miner who was infected during his work in a pit where rats were present. The disease was quite definite clinically, and the diagnosis was confirmed by post-mortem examination.

I understand that several rats from the pit were examined, but the reports of that examination were not produced in court, and the assumption that the infective organism was found was apparently confirmed by the sheriff's decision in favour of the plaintiff.—I am, etc.,

Lochgelly, Fife, May 27th. D. ELLIOT DICKSON.

Tuberculosis in Home-contacts

SIR,—The letters on this subject by Drs. Jessel and S. G. Tippett, in the *Journal* of April 20th and May 11th, are so interesting that it seemed worth while to check them from the light of available insurance statistics. In the matter of statistics it is advantageous to obtain actuarial assistance. Accordingly I asked for the help of Mr. A. B.

Chiles, A.I.A., one of the actuaries of the Sun Life Assurance Company of Canada, who kindly compiled the following report, which appears to be of considerable value.

"It is not possible to confirm from assurance statistics the estimate of 15 per cent. given in the *British Medical Journal* of May 20th, 1935, as being the proportion of persons contracting tuberculosis as a result of association with a tuberculous patient.

"The Medical Impairment Study (Canada and U.S.A.) statistics based on 10,000 cases from 1909 to 1928 do show, however, that the death rates from tuberculosis in such cases are much higher than normal—nearly three times normal in the case of underweights, one and a half times normal in the case of overweights, and twice the normal for all weights. Presumably it can be inferred that the non-fatal cases of the disease are heavier than normal to about the same extent. On this basis association just about doubles the normal risk of contracting tuberculosis—taking all weights together. As the case rate of pulmonary tuberculosis in England and Wales is only approximately 1.4 per 1,000 per annum, there seems to be some overstatement in the figure of 15 per cent. given in the *British Medical Journal*. However, the period of exposure in the Medical Impairment Study statistics was very short, and there may be considerable difference in the class of life in the two experiences—social grade, average age, etc. The Medical Impairment Study mortality ratios indicate that age is a very important factor, such extra mortality as there is being confined to ages at entry 15 to 29. Underweight is of importance, but to a lesser extent than age.

"In the Medical Impairment Study statistics a considerable proportion of the cases were under observation for only one or two years, and, therefore, in view of the statement in the *British Medical Journal* that the *average* period between the initial and secondary cases was as much as three and a half years, extreme caution should be exercised in drawing conclusions from the Medical Impairment Study statistics. If all cases had been under observation for the full period of risk, which may be as much as ten years, much heavier mortality would probably have resulted, and there would almost certainly have been a greater proportion of deaths from tuberculosis."

The main points which he brings out are: (1) that the ages of 15 to 29 are the most important factors; (2) that underweight is important, though to a lesser extent than age; and (3) that a contact is not absolutely free from risk for as much as ten years.—I am, etc.,

London, S.W.1, May 23rd. F. E. GUNTER.

Examination of Tuberculosis Contacts

SIR,—I have read with interest Dr. E. Ward's paper on the examination of tuberculosis contacts in the *Journal* of May 18th. In speaking of the investigation of child contacts he says "these children are examined clinically, and occasionally radiographed." If Dr. Ward is describing in these terms his personal method of investigation, I imagine that he can have little cause for complaint if his readers conclude that he accepts lightly his responsibilities in this direction.

Lest it should be thought that he is describing the procedure usually adopted by tuberculosis officers, may I say there are many who would not consider the investigation of a contact complete without a tuberculin test and the examination of a gastric lavage in the case of a child. The examination of sputum when present, or faeces, and in some instances a blood examination, are frequently undertaken in addition to clinical and radiographic examinations. Many tuberculosis officers, too, have at their disposal a number of beds to which cases can be admitted for investigation and observation; without them it is difficult to ascertain in some instances whether the person is suffering from tuberculosis or not, or, if suffering, to decide whether or not the disease is active and in need of institutional treatment. The illustrative cases quoted have naturally been selected to support the views of the writer, but it would not be difficult to quote illustrative cases in support of the view that a more thorough and more intensive investigation of the whole family (children and adults) is desirable when dealing with tuberculosis contacts.

With the writer's statement that "it is not the object of the examiner to discover whether a person has been infected with tuberculosis, but whether he is suffering from tuberculosis," there may not be universal agreement so far as children are concerned. It is widely taught that much infection with tuberculosis occurs during infancy in households where there is an open case of pulmonary tuberculosis, and infants so exposed are potential cases of tuberculosis in the future. And if this be correct, is the tuberculosis officer, when examining young children, justified in deliberately omitting the necessary tests to ascertain whether an infant has been infected or not? I should personally regard such systematic omission as indefensible. Furthermore, if the figures relating to results obtained by the Grancher system, and those as to the absence of tuberculosis among children born in tuberculosis colonies in this country, have any significance at all for tuberculosis workers, surely it should be to impress upon them the necessity for doing everything in their power to improve in every conceivable way the environment and conditions of the infected child during the years when infection is most likely to develop into disease.

In any tuberculosis scheme prophylaxis should be given the same consideration and attention as diagnosis and treatment if the best results are to be obtained, and if we are to tackle the problem as it is intended we should.—I am, etc.,

Birmingham, May 24th. G. B. DIXON.

SIR,—Dr. Halliday Sutherland's kindly criticism of my paper calls for a reply, but space does not permit me to join him in his gambols amidst humorous reflections.

Dr. Sutherland states, a little pontifically, that he has given some of the best years of his life to promoting a tuberculosis service; perhaps some time he will descend from his chair and tell us exactly how long he has served as whole-time tuberculosis officer engaged in the home examination of contacts.

In common with many others Dr. Sutherland reveres the past, and it must be admitted that historical studies provide for all of us interest, entertainment, and instruction. Hippocrates did good work in his time, and has handed down an oath which commands respect. 1887 was a good vintage year, and also the Edinburgh work then commenced by Sir Robert Philip will live for all time; but must we continue, as at present, slavishly to follow the lines of action then laid down? Surely it is better to modify our work from time to time and initiate such improvements as experience suggests. My experience suggests that the extensive examination of children is waste of time, and that we should turn to a more useful field—the young adults and the adult carriers of disease. Children of tuberculous families that are causing anxiety are readily brought to our notice in other ways.

Dr. Sutherland believes that tuberculin-testing of the children will reveal the cases needing treatment. But I believe that if such testing were to be carried out we should find a vast number of positive reactors who had no active disease and needed no treatment; also, some 10 per cent. positive reactors become negative within three to five years, which renders the test clinically worthless for contacts, except, maybe, in the case of infants. Dr. Sutherland also avers that children can be protected against tuberculosis by tuberculin injections or the use of

Calmette's attenuated bacillus (B.C.G.). If this were true it would indeed clarify our problems and be a great advance, but we are all of us awaiting the proof. Perhaps Dr. Sutherland will descend from his chair a second time and give it to us.

Finally, Dr. Sutherland concludes his admonitions: "a visceral lesion must grow to 4 c.mm. before it casts a shadow." Indeed, he must have been reading a book on radiography. In my limited experience the visibility of a lesion depends not only upon its size, but also upon its position and density. Lesions of much less than 4 c.mm. may be visible and larger lesions invisible. Moreover, the existence of a single lesion more often than not implies no danger. The whole clinical picture must be reviewed if necessary, and appropriate action taken.—I am, etc.,

Paignton, Devon, May 27th. ERNEST WARD.

SIR,—It is interesting to read Dr. Halliday Sutherland's comments (*Journal*, May 25th, p. 1099) on the uniform inefficiency of our tuberculosis officers. Their sole function appears to be that of a sort of medical "shop-walker," who either directs the customer to the radiographic department or bars the way to institutional treatment.

Many cases of pulmonary tuberculosis find their way into a general hospital, and rightly have to be disposed of elsewhere. This is where one might expect the help of the tuberculosis officer. But, no; the case is invariably unsuited for sanatorium treatment, and in a light-hearted manner the patient is recommended for removal to his home, despite the obvious fact that there is thus the practical certainty of spread of infection to other members of his household.

The main object of our public health system—prevention of disease—receives scant support in practice from its chief disciples of the lecture theatre and public platform.—I am, etc.,

Hull, May 25th. R. D. B. WRIGHT, M.B., Ch.B.

Remedies New and Old

SIR,—May I be allowed to thank Dr. Vincent Norman for his timely and practical suggestion. As a "young country doctor" I have often felt that such a "committee of clinical experts, composed of practising physicians" as he suggests, would do a great service to many practitioners who, like myself, are anxious, as far as possible, to treat our patients scientifically and not by trial-and-error methods.

There is no doubt that a number of the proprietary articles brought to our notice are of great value in the treatment of disease. We should hear more about these from independent authorities who have had an opportunity of testing them. There is also no doubt that a far greater number, as Dr. Norman suggests, are, "if not actively dangerous, of small value." These we should most certainly learn more about, and guard against. A patient has often asked me, "Do you think it would do me any good if I took some so-and-so?" mentioning some proprietary article, probably recommended by a friend, or advertised blatantly in the lay press. Much to my dismay I have to confess no knowledge of the mode of action or of the effect of that particular article, or descend to subterfuge and condemn it whole-heartedly without a trial.

Upon reading the "pseudo-scientific outpourings" of the manufacturing chemists I have often been impressed, and at times almost convinced, that the particular article advertised is scientifically sound in theory, especially as I am told in the advertisement that duly qualified medical men have carried out careful and extensive clinical tests, and I have fully made up my mind to try it out for myself at the first opportunity. When that opportunity comes, however, I have invariably fallen back on the old-time remedies "which have stood the test of time" simply because I have not the authority of some such committee or body as Dr. Norman suggests, and have to rely solely on the evidence of the manufacturing chemist and his very efficient advertisement manager.

At present the only proprietary articles prescribed by me are those which I have learnt of through sending a patient to a consulting physician, who may prescribe such an article after careful clinical trial. There are, however, a number of remedies, even advertised in the pages of the *British Medical Journal*, with which I should like to become better acquainted before "trying them out" on my patients. I venture to suggest that if the B.M.A. were to send out a questionary to all its members as to (1) the desirability of forming such a committee as that suggested, (2) the willingness of members to contribute financially towards the formation of such a committee, (3) suggestions as to how the committee should be formed, and how it should function, much useful information would be gained.—I am, etc.,

Machynlleth, May 20th. DAN. E. DAVIES.

The Springs of Neurosis

SIR,—With reference to the letter of Dr. Sydney Pern (*Journal*, May 18th), surely psychogenic neurosis and "neurosis" due to sepsis (though they may coexist) are two distinct conditions, as different as typhus is from typhoid, or a blush from scarlet fever. If we cannot always distinguish them, so much the worse for the patient, who will get the wrong treatment.

I suggest that the differential diagnosis would be easier if we took into account not only the exaggerated reactions of the psychoneurotic, but also his equally common subnormal ones. He is placid when other people would react. He may be enraged because dinner is late, but care-free that he is approaching bankruptcy. Dr. Crichton-Miller (in *Insomnia*) mentions a man who slept peacefully next door to the ship's engines but woke at the faintest shuffling of feet by the officer on the bridge. One man told me that he often felt that speaking to a girl was more of an ordeal than would be the entering of a lion's cage. With all allowances for exaggeration, I believe he would have felt less than the average person's fear of the lion. The same patient had periods (not cyclic) of marked euphoria, and it seems to me common for the psychoneurotic to have times when he declares he is quite all right, which times come and go with a suddenness that cannot be explained by sepsis.—I am, etc.,

London, N.7, May 17th. S. P. CASTELL.

Midwifery in the New Curriculum

SIR,—The report of the Medical Curriculum Conference alike from its authority and its content we may regard as marking an important step towards a new era in medical education. My object in writing is to point out that the brief reference to the subject of obstetrics which appears in your abstract of the report (May 18th, p. 1043) is liable to serious misunderstanding. The report correctly epitomizes one of the most significant features of present-day midwifery when it states that "modern conditions of practice make the recently qualified practitioner a consultant in obstetrics." From the nature of its deliberations the Conference could not have been expected to address itself to the important implications of this state of affairs. Nevertheless, by its silence on this question it might, in

some quarters, be construed to imply that the training at present given by the schools is sufficient to equip the student for this high responsibility, an interpretation which is liable to find further support in the fact that the Conference advances only one specific recommendation in respect of obstetrics—namely, that relating to the place which the examination in this subject should occupy in the curriculum.

The training of the student in midwifery raises matters which at an early date must demand the serious attention of those engaged in the consideration of the curriculum. The practitioner under existing conditions is, as the report states, expected from the outset of his career to act as a consultant in obstetrical emergencies, which, as is well known, may demand for their successful treatment at least as high a degree of skill and experience as we expect in the management of, for example, an acute abdominal crisis. It is obvious that the solution of this grave situation in modern medicine is not to be found in some such facile recommendation as that advanced by the Conference. It is clear that it is for some future curriculum committee to decide after a review of the facts whether it is desirable or even practicable for the schools to train an undergraduate to cope successfully with the major complications of midwifery, or whether the community would not be better served, as it is in respect of comparable surgical conditions, were training of the student directed to the more moderate aim of enabling him to recognize when the state of the patient demands the skill and the nursing care that are generally only obtainable in hospital.—I am, etc.,

British Post-Graduate Medical School, May 20th. JAMES YOUNG.

The Curriculum and General Practice

SIR,—The British Medical Association is to be congratulated on the valuable contribution it has made to the problem of the revision of the medical curriculum, and on the comprehensive character of the committee that drew up its recommendations, every branch of the profession being represented thereon. Not so the body invited by the University of London to consider the same question, consisting as it did exclusively of representatives of the principal universities and examining boards of England, to the total exclusion of the general practitioner. Dr. Barber, in your last issue, has admirably set out reasons why the bona fide general practitioners in immediate contact with 90 per cent. of the patients should be afforded an opportunity of expressing their views in such an inquiry.

The President of the Royal College of Surgeons of England, representing 20,000 Members of the College, almost entirely engaged in general practice, announced at the annual meeting that the College had been invited to send representatives to the Conference called by the University of London. When I asked him if any Members to represent the general practitioner would be chosen by the Council, he replied that it was then too late, as representatives were already chosen and meetings had already taken place. If representation of Members of the Council on the College, as voted for at successive annual meetings of the College for the past half-century, had been conceded, no doubt the question would have been brought forward and a decision taken before it was "too late."

The question at issue, in brief, is one of adapting the science of medicine, in its widest sense, to the application of the art of practice. Why should not the points of view and difficulties of the craftsmen who are to carry out the lion's share of the work be given full expression in dealing with this complex problem? It is not sufficient answer that the recommendations arrived at meet with a certain measure of acceptance.—I am, etc.,

London, S.W.1, May 27th. REDMOND ROCHE.

Lectures in the Curriculum

SIR,—It appears from the report of the Conference on the Medical Curriculum that one aspect of undergraduate medical training has escaped notice. I refer to the system of compelling the student to attend a large number of lectures on a great variety of subjects. Now in the days when the number of textbooks was small there was every reason for the student to listen to a systematic course of instruction on theory and ascertained facts, but to-day books are easily accessible to every student.

Demonstrations and clinical lectures must always have a place in medical pedagogy; but why have formal lectures? "People have nowadays," said Dr. Johnson, "got a strange opinion that everything should be taught by lectures. Now I cannot see that lectures can do so much good as reading the books from which the lectures are taken. I know nothing that can be best taught by lectures, except where experiments are to be shown. You may teach chymistry by lectures:—You might teach making of shoes by lectures!"

Another point that strikes me is that the student "should be made familiar with the psychological aspects of patients in the hospital. . . ." But there seem to be no suggestions that he will first need instruction in psychology, which he will not obtain by "not less than six demonstrations at a mental hospital."—I am, etc.,

London, N.W.1, May 20th. A. PINEY, M.D., M.R.C.P.

*** The Conference recommends that during the second year of medical studies the student shall attend a short course of lectures in elementary medical psychology.

To Melbourne and Back

SIR,—I have just read in the *Journal* of March 9th the account of the proposed journey across the Pacific in the *Aorangi* by members of the British Medical Association who are visiting Australia next September. The references to the interesting tourist features of Hawaii and Suva are well set out. But a party of members of the medical profession crossing the Pacific should not miss seeing three profoundly important medical institutions. They are: (1) the Queen's Hospital, Honolulu; (2) the Kalihi Reception Station for Lepers, about seven miles from Honolulu; and (3) the Memorial Hospital, and above all, the Native Medical School at Suva, which is situated in that hospital. Steps have been taken to enable those who desire to see these remarkable institutions, which have been to me an education in many ways. There will still be time to see the tourist attractions of both places, but even if there were not I should still advise no one to miss a visit to these three notable organizations.

The Native Medical School at Suva, supported jointly by the Government and the Rockefeller Foundation, indicates a road by which health may be conserved at low cost in remote islands, a means by which Western medicine can be made available to all the Pacific Islanders. No other method within possible economic limits could be devised. The result so far has been excellent. As this is to be a meeting of British medical practitioners, it is well they should see what the Empire has done, quietly and without publicity, in the South Pacific.—I am, etc.,

Melbourne, April 16th. JAMES W. BARRETT.

Antimony Compounds in Bilharzia Disease

SIR,—Evidence that the pentavalent antimony compounds are inferior to the trivalent compounds in the treatment of schistosomiasis is not conclusive, but it is generally believed that they are more effective in protozoal diseases, and the use of "neostam" would seem to show that it is slower in action than tartar emetic.

Neostam is a pentavalent compound which contains 30 per cent. of antimony, in contrast to antimonium potassium tartrate, which contains 36.6 per cent. in the trivalent form. It would not seem to be more potent than antimosan, which contains 12.5 per cent. of antimony. Like antimosan, fouadin is a trivalent compound, but it contains 13.5 per cent. of antimony, so that it should be slightly more potent if we depend on the antimony content for successful treatment.

One seeming advantage of both tartar emetic and neostam is that they may be prepared in fresh solution. It would be interesting to decide whether the German drugs would give better results if supplied in powder form, but it is doubtful whether any method of destroying large blood parasites in less than a month is advisable. Unfortunately practitioners sometimes employ quite unsuitable supplies of distilled water for intravenous work, and it is here that stable solutions of antimony compounds have the advantage when supplied in ampoules.

Dn 6 and Dn 7 are both trivalent compounds containing 16.7 per cent. of antimony. They are far less toxic, and cause less irritation to subcutaneous tissues, than tartar emetic in solution. Degeneration, followed by disappearance of the escaping ova, suggests that Dn 7 is equal to tartar emetic in eradicating bilharzia infection in Natal. The drug is hygroscopic, and has been used with success by Dr. J. Barneoud of Morocco, along with another product called Dn 18.

Unsuccessful attempts at curing bilharzia disease by preparations of antimony which may be administered with ease indicates that the solution of the problem will rather be the discovery of a product which may be used only by persons skilled in intravenous work, but which is certain to cure without risks of toxic effects to the patient. —I am, etc.,

Durban, May 11th. F. G. CAWSTON, M.D.

Criminal Indictments in Guernsey

SIR,—Dr. Whiteside Robertson, in the *Journal* of May 11th, under "Nova et Vetera," gave an accurate and amusing account of the Ordonnances relating to medical registration in Guernsey in connexion with the recent trial for murder there. In the indictment of the accused, which was in Norman French, the following sentence occurs, "étant dépourvue de la crainte du Dieu," which was officially translated "not having the fear of God before her eyes." In the indictment of Thomas Marquis of Dorset, for debauchery, etc., by Richard Duke of Gloucester, afterwards Richard III, the same phrase is used but further elaborated: "not having the fear of God nor the salvation of his own soul before his eyes." The Royal Court of Guernsey is therefore using the same phraseology in its indictments to-day as was current in the Courts of England four hundred and fifty years ago. —I am, etc.,

Health Office, Guernsey, May 20th. H. D. BISHOP.

Obituary

STEPHEN GEORGE FLOYD, M.D.

Late Senior Physician Tilbury Dreadnought Hospital; Medical Officer, Orsett and Grays Fever and Small-pox Hospitals

The unexpected death of Dr. S. G. Floyd in a Boscombe private hospital on May 27th will have been a cause of grief to a large circle of friends and past patients in Grays, Essex, and the surrounding districts, where he practised for nearly thirty years and was held in the highest esteem. He was a Londoner by birth, and was educated at Aske's School of the Haberdashers' Company. On leaving school he entered Guy's Hospital, where he took the conjoint qualification and the degrees of M.B., B.S.Lond. in 1892, proceeding M.D. in 1894. While there he held all the higher appointments open to students, including resident obstetric physician. After leaving he became successively resident medical officer small-pox hospital ships in Long Reach and house-surgeon to Swansea Hospital. He then entered into partnership practice in Llandrindod Wells, and was there appointed medical officer of health. A hydropathic practice, however, did not appeal to him, not providing sufficient scope for his energies. Accordingly, after a few years he removed to Grays, largely an industrial area. Here he was soon placed on the honorary staff of the Tilbury Hospital and appointed medical officer to the Orsett and Grays Fever and Small-pox Hospitals, meeting the needs of a large, populous area, including the five riverside parishes. When the hospital at Tilbury was taken over by the Dreadnought Seamen's Hospital, in order to retain his services he received the compliment of being made senior visiting physician.

For over forty years Dr. Floyd was a member of the British Medical Association, and whenever possible attended the meetings of his Division. He held the position of President of the South-East Essex Division in 1925, and presided over the Pathological Exhibition as demonstrator at the Annual Meeting in Bournemouth last year. A colleague, "J. A. W.," writes: S. Floyd represented the highest type of a general practitioner, earnest in his work and sparing no pains to give of his best to all who sought his assistance, amongst whom were his fellow practitioners, who largely called him into consultation. As in private practice so in his public capacities, he never failed to gain the confidence of all concerned. He was the essence of honour and integrity, imbued with high ideals, which he lived up to in all his actions. I have received the following tribute from a mutual friend: "He was incapable of an unkind word or an unkind thought, and lived his life in charity with all men." He leaves a widow, two sons, and a daughter to mourn his loss. The elder son is in the Colonial Medical Service, stationed in Uganda, the younger passed out of Cambridge as a wrangler and has taken Holy Orders. The daughter took an honours degree at Oxford.

JOHN HOLMES THOMPSON, M.B., B.CH.,

Nottingham

By the death of Dr. "Jack" Thompson on May 16th the medical profession in Nottingham has lost one of its most beloved members. A native of Co. Tyrone, he received his medical education at Belfast, graduating M.B., B.Ch. in 1893, and went to Nottingham in the following year as assistant to the late Dr. Dabell. Not long afterwards, with the full approval of his chief, he commenced practice for himself in the south end of the city, where he rapidly gathered around him a large clientele of all classes. In the great fight following the introduction of the National Health Insurance Bill Thompson ranked himself among the moderates who were

prepared to take service under the new scheme provided the conditions of service and the scale of remuneration were made satisfactory to the profession. In later years he was an active member of the local Insurance Committee, and had the honour of being the first medical man to be elected to its chairmanship. As such he took a leading part in arranging for the delivery of health lectures to insured persons in different parts of the city.

Thompson was also interested in medical politics, and acted as representative of the Nottingham Division of the B.M.A. at its annual meeting on seven occasions between 1925 and 1934, and he was also chairman of the Division in 1922–3. During the war he did excellent work on the staff of one of the local military hospitals. The social side of golf and Freemasonry appealed to him, and he was one of a hardy band of bathers who had a swim in the Trent every morning—winter and summer. His reputation for common sense and soundness of judgement led to his being selected by the Ministry of Health as one of its local part-time referees, and also as a medical assessor at its appeal courts.

In addition to his mundane interests, Thompson was intensely loyal to the faith of his Ulster forefathers, and acted for a quarter of a century as treasurer of St. Columba's Church, which he also on several occasions represented as an Elder at the meetings of the General Assembly of the Presbyterian Church of England. The outstanding feature of Thompson's character was his freedom from "envy, hatred, malice, and all uncharitableness." He added to a genial kindly nature a keen sense of humour, a soul of honour, integrity of principle, conscientious devotion to duty, and a desire to serve his fellow creatures to whatever station of life they belonged. The local midwives testify that they never saw him in a bad temper when called out of bed to give them assistance! When to these qualities of mind and heart was added a sound knowledge of his profession, it is not surprising that he occupied a very high position in the esteem of his fellow citizens, lay and medical, as was testified by the large attendance of both classes at his funeral.

A. F.

Dr. NICHOLAS CHARLES BOYLE, who died recently at Birch, in Essex, began his medical life in the old days when unqualified assistants were allowed to practise. After obtaining the Scottish triple qualification in 1896 he returned to the practice where he had been employed, and eventually purchased it, in Ripley, Derbyshire. He so endeared himself to his patients that he built up a very large practice, and richly deserved the high estimation in which he was held. During the war he was so hard worked that his health gave way, and he had to leave Ripley. For a time he confined his activities entirely to eye work, but as his health improved he felt the urge to return to general practice, and eventually settled at Birch. It was not long before the people there recognized his qualities, and his services were in great demand.

Dr. FRANK WILLIAM WESLEY, who died after a short illness on May 6th at the age of 65, was well known in Nottingham, where he had specialized in diseases of the ear, nose, and throat. Born in London, he received his medical education at University College Hospital, graduating M.B., B.S.Lond. in 1892, and obtaining the diplomas M.R.C.S., L.R.C.P. in the same year. He proceeded M.D. in 1893. He early showed special interest in surgery, and after holding the post of assistant demonstrator of anatomy became house-surgeon to University College Hospital. About forty years ago he started private practice in West Bridgford, Notts. In 1915 he received a commission in the R.A.M.C., and served first in Malta. He was later attached to an ambulance convoy in France, and subsequently commanded a casualty clearing station. He accompanied the troops to Cologne, and was demobilized with the rank of acting major in 1919, having been mentioned in dispatches and awarded the O.B.E. (military). Since the war he had served on medical boards under the Ministry of Pensions, and been surgeon to the Nottingham Hospital for Diseases of the Throat, Ear, and Nose. He joined the British Medical Association in 1893, and was a member of the Nottingham Medico-Chirurgical Society. A keen athlete in youth, Dr. Wesley was a member of the North Road Club, and in 1904 broke the cycling record for the distance between Land's End and John o' Groats, his time being four days seven hours and twenty-five minutes. He was also president of the West Bridgford Tennis Club and an enthusiastic motorist.

Dr. WALTER CULVER-JAMES died at his residence in High Wycombe, Bucks, on May 20th, after a distinguished career. He received his medical education at Guy's Hospital and Aberdeen, qualifying L.S.A. in 1874. Two years later he graduated M.B., C.M.Aberd., and obtained the diploma M.R.C.S. He proceeded M.D. in 1878, and became F.R.C.S.Ed. in 1881. He took an active interest in the Territorial Army, and held its decoration, retiring eventually with the rank of honorary surgeon colonel of the Honourable Artillery Company. He was mentioned in dispatches in 1916. Among the posts held by him were those of medical officer in charge of the Tower of London; president of the medical board of Queen Alexandra Military Hospital, Millbank; physician to the Greek Legation and the Hospital for Women and Children, Vincent Square; and consulting physician to the Westminster General Dispensary. He was an officer of the Greek Royal Order of the Redeemer. He contributed articles on medical and military topics to various periodicals, including the *British Medical Journal*, and more recently had written a book entitled *England's Future*. He was president of the Guild of St. Luke in 1932, and had been a member of the British Medical Association and of the Harveian and West London Medico-Chirurgical Societies.

Dr. BASIL EUSTACE MOSS, who died at his residence in Southgate on May 12th at the age of 52, had taken a prominent part in the public life of Edmonton. He received his medical education at St. Bartholomew's Hospital, graduating M.B., B.S.Lond. in 1905. After holding house appointments at the Royal Sea Bathing Hospital, Margate, the London Temperance Hospital, and the Miller General Hospital, he began general practice in Edmonton, where for twenty-five years he was the police divisional surgeon. Other appointments held by him were those of visiting medical officer to St. David's Hospital, anaesthetist to the Edmonton Education Authority, clinical assistant to the Prince of Wales's Hospital, and medical officer under the Ministry of Pensions. In Edmonton he was associated with the work of the Education Committee and other activities of the district council, and he retained these connexions when he later removed to Southgate. Dr. Moss was a member of the British Medical Association and the Edmonton Medical Society. He leaves a widow and two children. Police officers formed a guard of honour at the funeral service, and acted as bearers.

Dr. GEORGE YEOMAN, who died at his home in High Street, Northallerton, on May 25th, at the age of 71, had practised at Northallerton for thirty-five years. He was born at Osmotherley, and came of a family long associated with linen milling in the North Riding of Yorkshire. From Thorp Arch Grammar School, near Boston Spa, he went to Cambridge and graduated B.A. in 1885. Some years later he entered as a medical student at Edinburgh, and continued his professional studies at St. Thomas's Hospital, qualifying L.R.C.P. & S.Ed., and L.R.F.P.S. Glas. in 1899. Dr. Yeoman joined the British Medical Association in 1903, but took no part in medical politics. The work of a country practitioner was his chief interest in life, and gave full scope for his kindly but retiring disposition. For some years he had been in poor health, and a sharp attack of influenza proved quickly fatal.

Medico-Legal

THE PATIENT AS TESTATOR

(*Continued from page 904*)

ECCENTRICITY AND DELUSION

The doctor should take care not to mix up delusion with mere eccentricity. Many persons express their individuality, or lack of it, in unusual conduct or an attitude to life which challenges convention somewhat ostentatiously. As Mr. Noel Middleton shrewdly points out,[1] laymen are quick to notice eccentricity and often draw wrong conclusions from eccentric conduct, which may be the result of a solitary life, or of environment, or of a wilful determination to be different from other people. The doctor should know better. He has books on psychological medicine to guide him, as well as his medical instincts and feelings, which will sometimes detect the peculiarly sinister atmosphere of real psychosis better than will the intellect. In the last resort he can often call in a mental specialist. But he will find useful aid in the legal as well as in the medical writings, and none more helpful in the difficult diagnosis between delusion and mere "bees in the bonnet" than the judgement of Sir J. P. Wilde in Smith *v.* Tebbitt (1867). "What," asked this president of the Probate Court, "is a mental delusion?" To say that it means a morbid or insane delusion is, he pointed out, to beg the question. He then quoted earlier definitions, recalling that Sir John Nicoll once suggested: "A belief of facts which no rational person would have believed." What, however, he asked, are the limits of a rational man's belief? Lord Brougham said: "The belief of things as realities that exist only in the imagination of the patient." But surely, argued Sir J. P. Wilde, sane people often imagine things to exist which have no existence in reality, both in the physical and in the moral world. What else, he asked, gives rise to unfounded fears, unjust suspicions, baseless hopes, or romantic dreams? Dr. Willis, again, defined delusion as "a pertinacious adherence to some delusive idea, in opposition to plain evidence of its falsity." This is all very well, answered Wilde P., when the patient thinks his body is made of glass or his legs of butter, against the plain evidence of his senses. If, however, the delusive idea concerns something in which the senses play no part and the plain evidence is purely intellectual, sane men may well disagree on the plainness of the evidence. If they do disagree, then one man will hardly pronounce another a monomaniac in all cases when the evidence, to his way of thinking, is plain that the other's ideas are false. In complicated cases, where the diseased action of the mind does not oppose its hallucinations to the common senses or reason of all mankind, but can be tracked only in the recesses of abstract thought or religious speculation—regions in which the mental action even of the sane produces no common result—a delusion can, he said, only be defined in some such phrase as "insane delusion," which begs the whole question of the state of the testator's mind.

When laymen decide on whether a man is sane or insane, continued the president, they apply a simple rule of thumb. No one knows anything of the condition of anyone else's mind except by comparison with his own. In making this comparison, the plain man recognizes the general fact that all men possess the same senses, are moved by similar emotions, governed by similar restraints, and guided by the same faculties. The force and action of these components vary in different individuals or in the same individual at different times, but they vary within certain limits. When the words or deeds of other people, referred to our own standard and that which experience has found to be the common standard of the human race, appear to transgress those limits, then we suspect the mind to be disordered. If the transgression is very marked and constant, and embraces many subjects in the individual's behaviour, we say without hesitation that he is diseased. When, however, the divergence is casual or trifling, or can be explained in some other way, the judgement hesitates. The medical man, however, he pointed out, has another and more special set of rules. The mental specialist studies the thought and conduct of persons who are known to be insane; he can therefore reason from the certainly to the probably diseased mind, and can trace in the latter lineaments which are clearly marked in the former. The court, then, may search for a fit conclusion by alternately applying the parallel of sanity and insanity to the sayings and doings of the testator.

The doctor cannot do better than bear Sir J. P. Wilde's penetrating advice in mind, and apply much the same methods to the living testator in front of him as the court would apply to the man whom it could only know through the conflicting evidence of the witnesses.

The case in which the president delivered this judgement concerned an old lady who had very bizarre and unorthodox religious beliefs, and who used to describe without restraint the most extravagant religious experiences. It was argued on her behalf that her ideas and conduct ought to be judged not by ordinary standards, but by those of persons noted for their religious fervour, such as Joanna Southcott, John Bunyan, or Luther. Instead of doing so, the judge preferred to compare her with other persons in his experience whose general temperament and character had some resemblance, the closer the better, to those of the old lady. Judged by this standard, her ideas were not such as sane people had been known to entertain. On the contrary, they corresponded very closely to the delusions of grandeur commonly expressed by insane persons.

It is nearly always possible in such a way to form a sound idea as to whether a testator is merely displaying eccentricities or is dominated by delusions.

Another sensible test for insane beliefs was that laid down by Sir J. Hannan in Boughton *v.* Knight (1873). The standard by which the degree of another man's intellect should be measured is the mind of the man himself. This president said:

"You must not arbitrarily take your own mind as the measure in this sense: that you should say, 'I do not believe such and such a thing, and therefore a man who believes it is insane.' Nay, more, you must not say, 'I should not have believed such and such a thing; therefore the man who did believe it is insane.' But you must of necessity put to yourself this question and answer it: 'Can I understand how any man in possession of his senses could have believed such and such a thing?' And if the answer you give is, 'I cannot understand it,' then it is of the necessity of the case that you should say the man is not sane."

OLD AGE, PHYSICAL DISEASE, ALCOHOLISM

Exactly the same rules apply to the wills of persons whose minds have suffered the natural decay of old age or are affected by the pain or intoxication of a physical ailment. The question the doctor must ask himself is whether the testator had, in accordance with the foregoing standards, a sound disposing mind at the time he made his will. It has sometimes happened that a sane person at the point of death, very feeble, but anxious to dispose of his property, has signed a will leaving everything to one person. The court will then probably inquire not only whether the testator knew what he was doing, but also whether he was capable of remembering the extent of his property and appreciating the claims of those whom he was excluding from benefit. As one judge said more than three hundred years ago, sane memory for the making of a will is not at all times when the party can say yea or no, or has life in him, nor when he can in some things answer with sense, but he ought to have judgement to discern and to be of perfect memory, otherwise his will is void. The doctor must therefore satisfy himself that the patient actually remembered what he owned and who should succeed to it; otherwise he will be bound to express the opinion that the patient's mind was not equal to the task.

Alcohol affects the disposing power, and if a testator makes his will when under the influence of alcohol his capacity will be judged by the same standards as if he had been insane. There is one important difference, however, between the chronic alcoholic and the chronically insane testator. When a testator has been insane the

[1] *Trans. Med.-Leg. Soc.*, 1928, xxii, 111.

court will inquire whether the disease was latent in him when he made his will in such a way as to affect his capacity. When a habitual drunkard makes a will it is only necessary for those who uphold it to show that he was not at the time so much under the influence of drink as to be unable to appreciate and understand the act in all its bearings. If he was sober enough to know what he was doing, to remember what he had to leave, and to appreciate the claims of the various possible legatees the will is good. This rule only applies, of course, when the chronic alcoholism is not complicated by delusions, as it often is in Korsakov's syndrome and in senile patients. In that case the testator comes into the class of the mentally unsound.

(To be continued)

THE NEW MIDDLESEX

OPENING BY THE DUKE OF YORK

H.R.H. the Duke of York, who was accompanied by the Duchess, opened the new Middlesex Hospital on Wednesday afternoon. Prince Arthur of Connaught, the chairman of the hospital, in extending a formal welcome to Their Royal Highnesses, said he wondered whether the Duke, when he laid the foundation stone two years ago, imagined to what a huge size the development scheme of Middlesex Hospital would grow. "In ten years, never knowing for certain that the funds would be available, but always believing that support would come when the need was greatest, we have utterly transformed, enormously enlarged, the fine old hospital which we inherited." The Duke of York, as president of the British Empire Cancer Campaign, congratulated the Middlesex on playing a very important and distinguished part in the fight against that dread disease. He paid a tribute to the medical school, saying that the high standard of the work of its distinguished sons was known in all walks of the medical, surgical, and research world. His Royal Highness also said that he felt he was expressing the wish of everyone in congratulating those concerned on the success of their appeal to the generous supporters of the voluntary hospital system. A vote of thanks to the Duke of York was moved by Mr. W. Sampson Handley, senior surgeon and chairman of the Medical Committee, and seconded by Mr. A. E. Webb-Johnson, surgeon to the hospital and chairman of the Plans Committee. Their Royal Highnesses afterwards made a tour of the new hospital. In the new *x*-ray room the Duchess of York became the first "patient." A more extended reference to the new hospital will appear in the next issue. At the close of the proceedings a letter was read from Mr. E. W. Meyerstein giving £50,000 to the endowment of the new *x*-ray therapy department, and it was also announced that Mr. W. H. Collins had promised £50,000 to endow the department of *x*-ray diagnosis. Both these gentlemen have already been generous donors.

Universities and Colleges

UNIVERSITY OF OXFORD

The first examination for the degree of Bachelor of Medicine begins on June 17th, and the second examination on June 19th. Names must be received at the University Registry before 10.30 a.m. on June 4th. The examination for the degree of Master of Surgery begins on June 27th, and names must be received by 3 p.m. on June 8th.

The next Dean's Dinner will be held at the Chanticleer Restaurant, Frith Street, Soho, London, W.1, on Tuesday, June 4th, at 7 p.m. Any Oxford medical student who has not already received a notice and who wishes to attend should communicate his intention to do so *immediately* to the Dean of the Medical School, University Museum, Oxford.

UNIVERSITY OF CAMBRIDGE

The Appointments Committee will shortly proceed to appoint two University Demonstrators in Pathology. The appointments will be governed by the Statutes of the University, and the duties will commence on October 1st, 1935. Particulars as to stipend and duties may be obtained from Professor Dean, at the Department of Pathology (Tennis Court Road, Cambridge), to whom applications should be sent on or before July 10th.

UNIVERSITY OF LONDON

The Senate has appointed Sir Ernest Graham-Little to represent the University at the ninth International Congress of Dermatology, to be held at Budapest from September 13th to 22nd, and subsequently at the celebrations to be held on the occasion of the 300th anniversary of the University of Hungary at Budapest from September 25th to 28th.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL

Scholarships and Exhibitions

The following entrance scholarships and exhibition, tenable at University College Hospital Medical School, are announced: Two Goldsmid Entrance Scholarships, entitling the holder to the final course of medical study, for competition in July, and open to students who are preparing for the degrees of the universities of London, Oxford, Cambridge, Durham, and other British universities, or for the diplomas of the Royal Colleges of Physicians and Surgeons. One Goldsmid Entrance Exhibition, entitling the holder to a reduction by £80 of the fees for the full course of final medical study. The Filliter Entrance Scholarship in Pathology, entitling the holder to a reduction by £52 10s. of the fees due for the full course of final medical study.

The next examination for the above scholarship and exhibition will take place on July 22nd (anatomy and physiology) and 23rd (biochemistry and general pathology). Notice of intention to compete must be given, by June 29th, to the secretary, University College Hospital Medical School, University Street, W.C.1, from whom full particulars may be obtained.

Holders of the Bucknill Scholarship are not eligible for the above awards; this scholarship (value 160 guineas) is tenable at University College for the intermediate medical studies, and for the final course at University College Hospital Medical School. The subjects of the examination are chemistry, physics, botany, and zoology. Further particulars of this award may be obtained on application to the secretary, University College, Gower Street, W.C.1.

The Services

ARMY MEDICAL SERVICES

Colonel W. P. MacArthur, D.S.O., O.B.E., M.D., F.R.C.P.I., Honorary Physician to the King, Deputy Director-General, Army Medical Services, at the War Office, has been selected for appointment as Commandant, Royal Army Medical College, and promotion to Major-General, from September 26th, 1935, in succession to Major-General R. B. Ainsworth, D.S.O., O.B.E., Honorary Physician to the King, who retires on that date.

Colonel J. W. L. Scott, D.S.O., Honorary Physician to the King, Assistant Director-General, Army Medical Services, has been elected to succeed Colonel MacArthur as Deputy Director-General, Army Medical Services, and will in turn be succeeded in the appointment of Assistant Director-General by Brevet Colonel F. Casement, D.S.O., M.B., Assistant Director of Pathology and Hygiene, Western Command.

DEATHS IN THE SERVICES

Lieut.-Colonel Francis George Adye-Curran, R.A.M.C. (ret.), died in Dublin on March 15th, aged 89. He was born in Dublin on December 3rd, 1845, and was educated at Trinity College, Dublin, where he graduated A.B. and M.D. in 1867, also taking the L.R.C.S.I. in the same year. Subsequently he took the F.R.C.S.I. in 1887, and the L.A.H.Dub. in 1898. Entering the Army as assistant surgeon on October 1st, 1868, he served, under the old regimental system, in the 83rd Foot, or Royal Irish Rifles, now the Royal Ulster Rifles. He became lieutenant-colonel on April 6th, 1889, and retired on October 25th, 1893. From October 3rd, 1879, to May 5th, 1880, he was on half pay. After his retirement he was for a time assistant surgeon to St. Vincent's Hospital, Dublin; and he represented the Apothecaries' Hall of Ireland on the General Medical Council from 1905 to 1914.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The business of the House of Commons this week was to complete the report stage of the Government of India Bill and to consider the Housing Bill on report and third reading.

In the House of Lords on May 28th the second reading of the Gin Traps (Prohibition) Bill, which was moved by Viscount Tredegar, was rejected by 46 votes to 42 ; and the Diseases of Animals Bill passed through committee.

The Speaker reported to the House of Commons on May 28th that standing orders had been complied with in the case of the West Riding Mental Hospitals Board (Superannuation) Bill. This measure has already passed all stages in the House of Lords.

On May 28th, in the House of Lords, the Unemployment Assistance (Temporary Provisions) (No. 2) Bill, which has already passed the House of Commons, was read a first time.

A rearrangement of the Government offices is expected during the Whitsuntide recess. A change in the Premiership is anticipated, and one may also occur at the Ministry of Health.

The Leigh Joint Hospital District Bill was read a third time in the House of Commons on May 24th.

The West Riding of Yorkshire Mental Hospitals Board (Superannuation) Bill was passed by the House of Lords on May 21st.

Indian Pensions

During the report stage of the India Bill in the House of Commons on May 24th, Mr. LENNOX-BOYD moved a new clause providing for the procedure to be adopted if a default occurred in respect of the payment of pensions. He said that there was still widespread anxiety and a real expectation that if default occurred the interests of the pensioners would be very greatly jeopardized. Mr. BUTLER, Under Secretary to the India Office, said the effect of the amendments made in committee had been, first, to ensure that there were moneys available, and, secondly, that the Secretary of State had the responsibility for seeing that these pensions were paid. He could not conceive that the money would not be sent by the Federation to be paid in this country, but, if so, all the Secretary of State had to do was to issue a simple order, and that was the machinery necessary in order that the money should be paid. Sir SAMUEL HOARE said he wished to say with all the authority he could that in his view, and in that of the Government, the position of the pensioners was absolutely safe. The sum involved was not very big—about £4,000,000 a year. It would be a statutory obligation on the Governor-General to see that the money was transmitted to the pensioners here.

Medical Benefit for Unemployed

The National Health Insurance and Contributory Pensions Bill was presented in the House of Commons by Sir Hilton Young on May 23rd, and was read a first time. The Bill provides for cancellation of arrears due from unemployed contributors, and that where a contributor has been insured for ten years before losing his employment he will remain entitled to medical benefit, in addition to insurance for pensions, so long as he is unable to obtain employment. So far as health insurance is concerned the societies will forgo, to the advantage of the individual persons concerned, the arrears payments which at present they receive under the regulations and will also be charged with the cost of medical benefit for the persons whose insurance is prolonged year by year. It is proposed to give a grant out of a new fund, designated the Unemployment Arrears Fund, amounting to 3½d. for each week of proved unemployment, being somewhat in excess of the value of the penalties forgone. In regard to the class which will be entitled to medical benefit alone, the grant at the same weekly rate is sufficient to meet the cost of medical benefit and the societies' cost of administration in respect of keeping their membership alive on the books.

Other clauses of the Bill place on a permanent basis the arrangements for continuing the pensions rights of persons who otherwise would have their pension insurance terminated by reason of prolonged unemployment.

The Poisons List

Sir JOHN GILMOUR stated on May 23rd that the Poisons Board had prepared the Poisons List under the Poisons and Pharmacy Act, 1933, and was about to submit this to him, together with its recommendations in regard to the rules to be made under the Act. Sir John hoped that the proposals of the Board would be available before the Whitsun recess.

Public Assistance over 65

Sir JOHN POWER asked the Minister of Health on May 23rd for an estimate of the extent to which the increased number of persons in receipt of public assistance in the last twenty years was due to the increasing percentage of the population surviving the age of 65. Sir HILTON YOUNG replied that the only available figures before 1928 of persons over 65 years of age receiving relief was for 1906. The number in that year (excluding persons in mental hospitals) was 319,000, being 188 per 1,000 of the persons of that age in the population. In 1928 the corresponding figures were 203,000 and 75, and in 1934, 247,000 and 77. Compared with 1906 (before old age pensions were introduced) there had been a large decrease, and since 1928, though a substantial increase in total number, only a small increase in the proportion. It was not practicable to estimate how much of the increase in the total number in recent years was due to the cause mentioned by Sir John Power, but some 86 per cent. of the persons over 65 years receiving assistance were relieved on account of sickness.

Inquiry Committee on Water Supplies

Mr. ATLEE asked the Minister of Health, on May 27th, the extent of the proposed inquiry by a Select Committee into water resources and supplies, and what powers were proposed for the committee. Sir HILTON YOUNG, replying, said that the law relating to water supplies required amendment in various particulars, and proposals for this purpose had been made from time to time, including proposals in three reports of the Water Advisory Committee of the Ministry of Health. The most appropriate method of investigating what amendments were desirable was by a joint committee of both Houses of Parliament, who could hear the interests concerned. The committee would be at liberty to investigate other aspects of the matter which they considered relevant to this purpose. It would have the usual powers to hear evidence and to make recommendations. Sir F. FREMANTLE asked whether it would be within the purview of this committee to consider the question of drains and sewage. Sir HILTON YOUNG replied that the specific purpose of the inquiry was to consider the water supply, but one could not consider that question without giving some consideration to that of sewage.

Medical Attendance in Indian Civil Service

In the House of Commons on May 28th the Government of India Bill was further considered on report. On Clause 244 (Conditions of Service, Pensions, etc., of Persons Recruited by the Secretary of State), Mr. BUTLER moved an amendment providing that the rights of all persons appointed to a civil service post by the Secretary of State in regard to medical attendance should be prescribed by rules made by the Secretary of State. He said that the Secretary of State had considered with great sympathy certain representations which have been made to him during the committee stage of the Bill,

and he had decided that there was a case for adding the general rights in regard to medical attendance of civil servants to the questions on which the Secretary of State would make rules. This was a matter to which members of the civil service attached great importance. They had at present certain rights entitling them to medical treatment for themselves, and in certain cases for their wives and families. The availability, for example, of a British medical officer in a station where there was a substantial body of civilians was a right to which they attached great importance, and in view of the conditions of service in India and the special problems which arose in regard to medical attendance there he thought that the House would regard it as legitimate that this amendment should be made to the Bill. Mr. RHYS DAVIES said that it would be a very foolish man who opposed a proposal of this kind, but Mr. Butler had not made it quite clear whether it was intended to extend these medical rights of the persons involved. Was it intended to extend those rights or merely to legalize the *status quo*? Sir SAMUEL HOARE said that this provision had nothing to do with the extension or limitation of medical rights of this kind. All that it did was to say that rules affecting the medical treatment of civilians must be made by the Secretary of State, and could not be delegated to anybody else.

The House agreed to the amendment.

Animal Experiment Licences

Sir JOHN GILMOUR, on May 22nd, said that certificates given under the provisos to Section 3 of the Cruelty to Animals Act, 1876, dispensing with some of the conditions laid down in the earlier part of the Section were given by the scientific authorities named in Section 11 of the Act, and not by the Home Office. A copy of any certificate given must be forwarded to the Secretary of State, and did not come into operation until one week after a copy had been so forwarded. The power of the Secretary of State was confined to disallowing or suspending any certificate given under the Act. Licences to perform experiments on living animals under the Cruelty to Animals Act, 1876, were in all cases granted to individuals, and not to establishments or public or private companies. He could not say what percentage of licences for vivisection had been issued during the last ten years to persons who had never been connected with medical practice, or to persons under 30 years of age.

Sir JOHN GILMOUR stated, on May 27th, that the British Post-Graduate Medical School, Ducane Road, Hammersmith, was registered as a place for the performance of experiments on animals under the provisions of the Cruelty to Animals Act, 1876. No applications had yet been received to register the criminal investigation research laboratory at Bristol and the laboratory at the metropolitan police college at Hendon as places for experimentation on animals under the provisions of the same Act, but the question of applying for the registration of the latter laboratory was under consideration.

Maternal Mortality: No Royal Commission

In a reply to Mr. Graham White on May 27th Mr. RAMSAY MACDONALD said he was not satisfied that it would be of advantage to appoint a Royal Commission to conduct a comprehensive inquiry into the causes of maternal mortality and to make recommendations. Special inquiries were in progress in areas where the incidence of maternal mortality was, or had been, most marked. Sir Hilton Young proposed to lay a White Paper on the subject before the House when these inquiries were complete.

Reduction in Road Fatalities. — Mr. HORE-BELISHA announced on May 22nd that for the eight weeks ended May 11th, during which the thirty miles per hour speed limit had been in operation, 153 fewer persons had died, and 2,699 fewer had been injured as the result of road accidents, than in the corresponding weeks of 1934. This represented a reduction of 15.3 per cent. in persons killed and 8.3 per cent. in persons injured in a period when the number of motor vehicles licensed increased over 12 per cent. The reductions were mainly in the metropolitan, city, and borough police areas, where the speed limit generally applied. These areas accounted for over 75 per cent. of the reduction in deaths and over 90 per cent. of the reduction in injuries.

Declining Birth Rate.—In an answer to Sir Nicholas Grattan Doyle on May 22nd, Mr. SHAKESPEARE said the birth rates per 1,000 of population in England and Wales were: in 1904, 28.0 ; in 1914, 23.8 ; in 1924, 18.8 ; and in 1934, 14.8, the last figure being provisional. No forecast of future population could be calculated from this rate of regression. On May 27th Sir HILTON YOUNG circulated the following tabular statement for England and Wales:

	Live Births	Stillbirths	Total (Live and Stillbirths)
1932	613,972	26,471	640,443
1933	580,413	25,084	605,497
1934 (provisional) ...	597,642	25,209	622,851

Silicosis Claims.—Sir JOHN GILMOUR told Mr. Gordon Macdonald on May 22nd that he was not aware of a long delay in settlement of claims by persons certified as suffering from silicosis. If particulars were furnished he would see whether he could take action.

Certification of Nystagmus.—On May 23rd Mr. Tinker asked the Home Secretary whether he was aware of the feeling among the workmen suffering from nystagmus against there being only one medical referee to decide on cases sent before him ; and whether he would consider the advisability of appointing two medical referees in place of one to certify the condition of the workman. Sir JOHN GILMOUR, in reply, said that the suggestion would involve an important departure from the present provisions as to medical certification which could not be adopted without full inquiry. The whole position in regard to this disease was under consideration. Mr. GODFREY NICHOLSON then suggested the appointment of a Departmental Committee.

The M.O.H. and Milk Supplied to Schools.—Sir Percy Hurd was informed by Sir HILTON YOUNG on May 27th that Sir Hilton was taking no action in respect to the refusal of certain county medical officers to sanction the supply to schools of other than pasteurized milk. Sir Percy asked whether the Minister of Health held it within the competence of medical officers to exercise their discretion in a manner contrary to instructions from their councils. Sir HILTON said that under the arrangements made by the Milk Marketing Board for supply of milk at reduced rates, approval of the source and quality of the supply was a matter for the professional discretion of the medical officer of health.

Legal Protection of Young Persons in Factories.—On May 28th Mr. RHYS DAVIES asked the Home Secretary if he had considered amending the Factory Acts by special provisions to cover the 300,000 young persons who were without legal protection. Sir JOHN GILMOUR said that he was not in a position to announce any decision on the matter.

Death at Acetylene Welding Plant.—Sir JOHN GILMOUR, replying to Mr. Thorne on May 28th, said he had received a preliminary report from his factory inspector on the death of a casual labourer at Portsmouth who was helping to carry an acetylene welding plant. It appeared that the accident occurred in an unusual manner owing to sparks entering an acetylene generator which was not altogether cleared of gas. The case would be followed up with a view to the prevention of any similar accident.

Vaccination before Entering Adoption Home.—Mr. GROVES asked if the Minister of Health was aware that a 1-month-old baby of Laleham died from vaccination performed when the infant was five days old, in order to enter an adoption home ; and whether he would communicate with the societies that arranged for the adoption of children and remind them of the advice given in the last report of the Chief Medical Officer of the Ministry, to the effect that the authorities of such institutions should abolish their vaccination regulations. Sir HILTON YOUNG said he was aware of the case. He did not find that the last report of the Chief Medical Officer advised that the authorities of institutions should abolish their vaccination regulations. The passage in the report to which Mr.

Groves appeared to refer was not relevant to this case. It related to the vaccination of adolescents and children of school age who had not previously been vaccinated.

Period of Remand : Extension for Medical Report.—Captain CUNNINGHAM-REID, on May 28th, raised the question of the recommendation contained in the report of the Commissioners of Prisons for 1933 to the effect that it would be an advantage in police court cases if the usual period of remand for eight days on bail, or in custody, could be extended to fourteen or twenty-one days without producing the prisoner if the court was satisfied by a medical report that such extension was desirable to ascertain the mental condition of the prisoner. Sir JOHN GILMOUR said this recommendation had been noted for consideration when there was an opportunity for legislation. He could not say when it would be possible to give effect to it.

Medical News

The House of the British Medical Association, including the Library, will be closed for the Whitsun holiday from 6 p.m. on Friday, June 7th, to 9 a.m. on Tuesday, June 11th.

The House of the Royal Society of Medicine, including the library, will be closed for the Whitsun holiday from Saturday, June 8th, to Monday, June 10th, both days inclusive.

The Buckston Browne annual banquet, under the auspices of the Harveian Society of London, will be held at Merchant Taylors' Hall, Threadneedle Street, E.C., on Thursday, June 13th, at 8 p.m.

A dinner of the Cambridge Graduates' Medical Club will be held at Sidney Sussex College on Friday, June 28th, at 7.30 for 7.45 p.m., with Sir Walter Langdon-Brown, Regius Professor of Physic, in the chair. Cambridge graduates not already members of the club who wish to join should communicate with one of the honorary secretaries, Dr. F. G. Chandler, 1, Park Square West, N.W.1, or Mr. W. D. Doherty, 10, Upper Wimpole Street, W.1. Price of dinner, including wine, etc., 17s. 6d. Accommodation can be provided at the college for bed and breakfast if previous notice be given.

The Cavendish Lecture, before the West London Medico-Chirurgical Society, will be delivered by Professor Edward Mellanby, F.R.S., on Thursday, June 13th, at 8.30 p.m., at the Kensington Town Hall. His subject will be "Proper Feeding: The First Essential for Good Physique and Health." The lecture will be preceded by a reception at 8 p.m., and followed by the annual conversazione and medical and surgical exhibition.

Dr. J. D. Comrie will read a paper on "Eighteenth Century English Medicine" at a special meeting of the Section of History of Medicine of the Royal Society of Medicine on Wednesday, June 5th, at 5 p.m.

On the occasion of the annual general meeting of the British Science Guild, on Wednesday, June 12th, at 4.30 p.m., Lord Melchett presiding, a lecture on gas defence will be given by Mr. J. Davidson Pratt, M.A., B.Sc., general manager and secretary of the Association of British Chemical Manufacturers. The meeting and lecture will take place at the Royal Society of Arts, John Street, Adelphi, and tickets (for which there is no charge) may be obtained from the secretary of the British Science Guild, 6, John Street, Adelphi, W.C.2.

A Court Dinner of the Society of Apothecaries of London will be held in the Apothecaries' Hall on Tuesday, June 4th, at 7.30 p.m. During the dinner the society's gold medal for valuable services rendered to the science of therapeutics will be presented to Sir Frederick Banting.

The syllabus for the summer session of the South-West London Post-Graduate Association (St. James's Hospital, Ouseley Road, S.W.) includes lecture-demonstrations on May 29th, by Dr. W. J. O'Donovan on "Skin Diseases and the Workmen's Compensation Act"; on June 11th, by Mr. J. P. Monkhouse on "Treatment of Suppurative Otitis Media"; and on July 3rd, by Dr. H. C. Cameron on "Convulsions in Infancy and Childhood." Medical cases will be demonstrated by Dr. C. E. Lakin on June 5th, and surgical cases by Mr. V. Zachary Cope on July 17th. Visits will be paid to High Wood Hospital for Children, Brentwood, on June 19th, and to the Euxton Browne Research Farm, Downe, Kent, on June 26th. A pathological demonstration will be given by Dr. W. G. Barnard on July 10th. All meetings commence at 4 p.m., with the exception of the two visits, which are timed to start at 3 p.m.

The Central London Throat, Nose and Ear Hospital (Gray's Inn Road, W.C.) has arranged a course in methods of examination and diagnosis from June 24th to 28th, both dates inclusive. The course begins at 4.30 p.m. daily and is free to clinical assistants (other students, £1 1s.). Applications should be sent to the secretary-superintendent immediately.

The Fellowship of Medicine announces that the following courses, especially helpful for those taking the M.R.C.P. examination, will take place during June: clinical and pathological course at National Temperance Hospital on Tuesdays and Thursdays, from June 11th to 27th, at 8 p.m.; M.R.C.P. course in chest diseases at Brompton Hospital, two days a week during June, from 5 to 6.30 p.m.; intensive course in cardiology at National Hospital for Diseases of the Heart, from June 24th to July 6th. For those desiring less advanced work there will be a week-end course in infectious diseases at Park Hospital, Hither Green, S.E., on June 15th and 16th. There will also be two courses in medicine, surgery, and the specialties at Prince of Wales's General Hospital, from June 17th to 29th and July 1st to 13th. Other forthcoming courses include: proctology at St. Mark's Hospital, July 1st to 6th; urology at All Saints' Hospital, July 8th to 27th; medicine and surgery at Southend General Hospital, July 13th and 14th; and dermatology at Blackfriars Skin Hospital, July 15th to 27th. A supper-dance and cabaret, at which all members of the medical profession and their friends will be welcome, has been arranged for Wednesday, June 5th, at 9.30 p.m., at Claridges Hotel. Tickets can be obtained from the Fellowship of Medicine, 1, Wimpole Street, W.1.

The third European Mental Hygiene Reunion will be held in Brussels on July 20th and 21st, immediately preceding a congress of medical alienists and neurologists and under the auspices of the Belgian League for Mental Hygiene. The programme is as follows: (1) Boarding-out treatment for mental patients. (Speakers: Dr. G. Corberi, professor at the University of Milan; Dr. F. Sano, director of Gheel Colony; Dr. J. Vié, director of Aimay-le-Château Colony.) (2) Punishments and restrictions in the family and in the school. (Speakers: Dr. Heinrich Meng of Basle; Dr. H. Crichton-Miller, founder and honorary senior physician, the Institute of Medical Psychology, London.) (3) Mental hygiene and the Press. (Speakers: Dr. O. L. Forel, senior physician to "Les Rives de Prangins," Nyon; Dr. J. van der Spek, director of the Psychiatric Institute "Maas oord," Rotterdam.) The sessions will begin on Saturday, July 20th, at 2.30 p.m., and will be continued on Sunday, July 21st, at 9 a.m. Those wishing to attend the reunion are asked to communicate as soon as possible with the secretary, the National Council for Mental Hygiene, 78, Chandos House, Palmer Street, London, S.W.1, who will be pleased to supply further particulars.

On Thursday, June 6th, at 2.30 p.m., a demonstration of the use of a variety of contraceptive methods will be given at 108, Whitfield Street, Tottenham Court Road, W.1. Application for tickets (which will be supplied to medical practitioners and senior students only) should be made in writing to the honorary secretary, C.B.C., at that address.

The radiotherapeutic institute of Frankfurt University has organized a post-graduate course on modern deep Roentgen therapy. Further information can be obtained from Professor Holfelder, Eschenbachstr. 14, Frankfurt A.M.

A special fortnight's course has been arranged at the National Hospital for Diseases of the Heart, Westmoreland Street, Marylebone, W., from June 24th to July 5th (except June 29th and 30th), at 10 a.m. each day. Admission to the course is by ticket only and the fee is £7 7s. Early application should be made to the dean, Dr. B. T. Parsons-Smith, as the course is limited to twenty. The next course opens on October 7th.

The Société Française d'Orthopédie will hold a meeting at Bordeaux on June 7th and 8th, and its annual congress at Lille on October 4th.

The Tomarkin Foundation is organizing under the auspices of the University of Brussels its seventh International Medical Post-Graduate Congress, to be held during the World Exhibition from September 12th to 19th next, in the Faculty of Medicine of the University, and from September 20th to October 2nd at Spa. Full particulars may be had from the secretary, Tomarkin Foundation, Faculty of Medicine, 97, Rue aux Laines, Bruxelles, Belgium.

The ninth International Congress of Dermatology and Syphilography will be held at Budapest from September 15th to 21st. Further information can be obtained from Professor Nekam, Maria uta 41, Budapest VII.

As already announced, the first International Congress of Gastro-enterology will be held in Brussels from August 8th to 10th. In each country a national committee has been formed in connexion with the congress; the secretary for that of Great Britain is Dr. Thomas Hunt, 12, Queen Anne Street, W.1, from whom full details are obtainable. Two subjects for discussion have been chosen—namely, the varieties of gastritis and severe ulcerative colitis of non-amoebic causation. Excursions and festivities will be arranged in conjunction with this congress, to which all medical practitioners interested are invited; a ladies' committee will be formed, and those attending have the right to bring members of their families. The subscription for active members is 30 belgas, for students and those accompanying members 15 belgas.

The first congress of Austrian ear, nose, and throat specialists will be held in Vienna on June 21st and 22nd, and will be open to visitors from other countries. The topics for discussion include: the aetiology and treatment of vertigo; otogenous meningitis; complications following tonsillitis; and new methods in disorders of speech and the vocal cords. Further information is obtainable from Dr. Urbantschitsch, Schottering 24, Vienna 1.

The issue of *Forschungen und Fortschritte* for May 20th contains an address delivered by Professor Paul Uhlenhuth of Freiburg at Ghent, showing the value of experiments on animals in the diagnosis, prophylaxis, and treatment of infectious diseases.

Mr. H. Lloyd-Williams, M.R.C.S., L.D.S., of Waenfawr, late of Harley Street, Justice of the Peace for the County of Middlesex, has been appointed Justice of the Peace for Carnarvonshire.

The parliament of Finland has passed a law, by 144 to 14 votes, for the sterilization of idiots, insane persons, and sexual malefactors.

At the suggestion of Professor Jeanselme a special pavilion for tropical diseases has been erected in the Hôpital St. Louis, Paris, the principal object being to protect leprosy patients from infection with tuberculosis.

During the fourth quarter of 1934 only one case of smallpox was notified in England. It occurred in the urban district of Havant and Waterloo (Southampton), and ended fatally. During the third quarter of 1934 there were two cases, and in the fourth quarter of 1933 forty-six cases without a death.

According to a Reuter message from Colombo the latest returns show that there were 15,933 malaria deaths in Ceylon in April, making a total for the six months November to April of 82,637. The epidemic, though generally on the decrease, is now spreading to the central uplands and affecting workers on the tea and rubber estates.

A Rumanian academy of medicine has recently been founded at Bucarest.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs. Authors over-seas should indicate on MSS. if reprints are required, as proofs are not sent abroad.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBER** of the British Medical Association and the *British Medical Journal* is EUSTON 2111 (internal exchange, five lines).

The **TELEGRAPHIC ADDRESSES** are:
EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 18, Kildare Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

QUERIES AND ANSWERS

Malaise after Motoring

Dr. ARTHUR HAWKYARD writes: I have a woman patient who suffers from vomiting and headache when riding for an hour or so in a motor car. The attacks are similar to attacks of migraine. I have tried a good many remedies, including Schering's tab. vasano. This stops the vomiting, but "dopes" the patient too much. If any member can suggest a remedy I should be grateful.

Cracked Upper Lip

Dr. ARTHUR E. DRUITT (Southampton) writes: Looking over back numbers, I have just noticed the query by "B. G." (April 27th, p. 907). For all cracked skins I find nothing equal to glycerin and water, equal parts after washing; no dressing required.

Income Tax

Additional Appointment—Schedule E

"A. W." was appointed M.O.H. for a combined district on April 1st, 1932, and, in addition, assistant M.O.H. of the county council as from April 1st, 1933. What is the basis of his liability for 1933–4?

*** The normal basis for Schedule E is that of the previous year, but for the first year for which an appointment is held the basis is that of the current year. In this case the two appointments are apparently distinct and severable, and are separately assessable. "A. W.'s" liability for 1933–4, therefore, is the aggregate of the income of the first appointment for 1932–3 and of the second appointment for 1933–4.

Change in Partnership

"Z. Y. X." was in partnership with his son, on a 2/3 and 1/3 basis, up to December 31st, 1934, as from which date a third partner was taken in—1/3 share all round. The firm's accounts are made up to March 31st each year. What is the effect on the income tax returns?

*** It has to be remembered that, although declarations for income tax are made on the amount of the profits of the previous year, the tax payable accounts for the liability of the year for which the return is made. In this case the declaration for 1935–6 will be made on the basis of the amount of the firm's profits of the year to March 31st, 1935. As regards the three months ending at that date "Z. Y. X." and his son will be entitled to an adjustment with the new partner, because if the existing assessment for 1934–5 is discharged by them they will be paying tax on the new partner's income for those months.

Car Replacement

"E. M. D." bought a second-hand car in 1933 for £50. In 1934 he sold it for £30 and bought a new car for £175. No depreciation has been allowed. What can be claimed for replacement?

*** The amount allowable is the net cost of replacing the car by another of similar standard and condition, and is therefore £50 − £30 = £20. "E. M. D." mentions that the local inspector "does not allow depreciation." It is not stated on what grounds he refuses an allowance legally claimable and of general application. If £20 cost of replacement be treated as an expense of 1934, the depreciation allowance cannot be claimed for 1935–6, but we advise "E. M. D." to press for the allowance in 1936–7 and future years.

Child Allowance

"FATHER" has a son, aged 25, studying medicine. He qualified last year, but has his final Fellowship to take. He is employed as a casualty officer at a hospital, receiving board and residence, but no salary. Can "Father" claim the child allowance?

*** In our opinion, No. Seeing that the son has qualified and holds an appointment of service, it is not possible to prove that he is "receiving full-time instruction at an educational establishment."

LETTERS, NOTES, ETC.

Yaws in Grenada

Correction

SIR PERCIVAL HORTON-SMITH HARTLEY writes: In my letter on "Yaws in the Island of Grenada," which appeared in your issue of March 30th, I regret that I gave incorrectly the name of the medical officer who has been in charge of the hospital at Port St. George since 1928, and to whose excellent work I was drawing attention. The name should have been *Dr. Matthew Clayton-Mitchell*, and not as stated.

Unusual Injuries

Dr. W. H. GOSSIP (Glasgow) writes: Dr. Windsor Lewis, by his interesting account of an unusual injury in your issue of May 4th, recalls to my mind a somewhat similar case. But here, alas! the clue was given and neglected, and the solution came as an unpleasant surprise. One afternoon about four years ago I was called to see an "accident" in the casualty department of a provincial hospital. The victim was a messenger boy, about 12 years of age, who had collided with a motor car when coming out of a side road on his cycle. The driver of the car had brought him straight to hospital, and explained that the boy had struck the side of the car a glancing blow, and that his injuries had possibly been caused by one of the door handles on the outside of the car. This had been broken clean off and was missing. The boy was considerably shocked and frightened, but his only obvious injury was a small punctured wound of the chest wall, about one inch long, on the right side, between the fourth and fifth ribs in the mid-axillary line. This opened into the pleural cavity, with a small amount of blood-stained froth bubbling in and out. There was no discernible fracture of the ribs. He was admitted to hospital, and for a few days he was kept under observation, and the wound treated on general principles. However, after two days he began to "swing" a temperature, with no evidence of fluid accumulating in the chest, and to our horror an *x*-ray film showed the missing door handle lying at the foot of the pleural cavity. This was successfully removed at operation next day, and the boy made a good and uneventful recovery.

Instruction for Ambulance Work

Messrs. S. E. BIRD, R. H. FRY, and J. WHEELER write: We are members of an ambulance class in connexion with the Mother Church of Southsea (St. Paul's), which has been carrying on ambulance work for several years. We are under the auspices of the St. John Ambulance Association, and use its textbook. Doubtless it is a very excellent manual, but we cannot shut our eyes to the fact that there are grave defects in it—errors both of omission and commission. For example, in the chapter dealing with insensibility there is a gross mistake in connexion with strychnine poisoning, where it is stated that unconsciousness occurs in the presence of breathing, which is contrary to fact. Also, no mention is made of the cause of death through the above poison (tetanizing of the respiratory centre), or in opium or prussic acid poisoning. To be sure, artificial respiration is enjoined in two of these, but every intelligent student desires to know why such treatment should be carried out. Besides, when one knows the reason of the existence of a fact, that fact is much more likely to be retained in the memory. The famous old adage, *Felix qui potuit rerum cognoscere causas*, is most apposite in first-aid work. Also no mention is made of the medulla; but, without a knowledge of it first aid cannot be carried out intelligently in treatment for the above poisons, and in several other conditions. It may be urged that the acquisition of such knowledge is beyond the level of "first-aiders." This, however, we emphatically deny, as ambulance students, in our opinion, are quite able to understand all the knowledge referred to which is required for rendering first aid. We may also be accused of endeavouring to take work out of the hands of the medical man. On the contrary, we wish to give him work, so that when he arrives on the scene of action he may have a living patient to treat and not a dead body to look at. That it is the primary duty of anyone rendering first aid in every case of serious accident to send for medical assistance is a point which we are always careful to bear in mind. We and the other members of our class therefore hope that a thorough revision of the book will be undertaken at an early date.

Missing Speed Limit Sign

In a case just heard at Uxbridge it was contended by the Automobile Association in defending a member that when entering a restricted length of road, unless the appropriate thirty-mile limit sign is displayed, there can be no conviction for the offence of exceeding the speed limit. In emphasizing the importance of this matter to the motoring public, the A.A. solicitor pointed out that it was not generally realized that the Traffic Act, 1934, expressly imposed upon local authorities the obligation to erect these signs for the adequate guidance of motorists. The Uxbridge magistrates upheld the contention and dismissed the summons.

Medical Golf

The fifth spring meeting of the Sussex Medical and Dental Golfing Society was held on the links of the Willingdon Golf Club on May 19th, when twenty-four players took part. The morning competition—singles medal play for the Rolls Hoare Cup, was won by E. R. Devlin, the runners-up being D. Cuffey and C. R. Alderson, and the sweep for the six sealed holes was won by A. R. Ferguson. The afternoon was somewhat spoiled by rain, the competition being a four-ball foursome against bogey, won by Messrs. Heald and Whorlow, the runners-up being E. Lowe and D. Cuffey, who tied with Hammond-Williams and Butcher.

Disclaimer

Dr. F. A. ANDERSON (Stranraer) writes: My attention has been drawn to the fact that in a recent novel—*The Screaming Gull*, by Angus McVicar—the name "Dr. Anderson" is mentioned in association with the Stranraer Cottage Hospital. Further, this novel is now appearing as a serial story in the Scottish edition of the *Daily Express*. Although the author definitely states that all characters in the story are entirely fictitious, his choice of name is most unfortunate, as I am one of the honorary staff of the Stranraer Cottage Hospital. I wish therefore to disclaim any acquaintance with, or knowledge of, the author.

Corrigendum

Sir D'ARCY POWER wishes to make a correction in his obituary notice of Dr. John Gay, published last week (p. 1102), col. 1, line 25 from bottom: for "Royal Free" *read* "Great Northern."

Numol Limited, compounders of dietetic preparations and surgical antiseptics (Newcastle), have prepared for their medical clients a bridge card, which gives on one side a scoring table for contract bridge according to the new rules as revised in April, 1935, and on the other side a few notes on contract. Supplies may be had, without charge, from the Advertising Department, Numol Ltd., Elswick Road, Newcastle-on-Tyne.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 43, 44, 45, 46, 47, 48, 49, and 52 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 50 and 51.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 244.